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The Extent of Applying Academic Leaders for participative Administration at Jordanian Universities and its Role in Enhancing Organizational culture

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!2012

مدى تطبيق القادة الأكاديميين للادارة التشاركية في الجامعات الأردنية الحكومية

ودورها في تعزيز الثقافة التنظيمية

إعداد

طراد برجس طراد الزعبي

بكالوريوس محاسبة، كلية الإدارة والاقتصاد، جامعة الموصل، العراق، 1984م

ماجستير إدارة تربوية، كلية التربية،جامعة وين الحكومية، الولايات المتحدة الأمريكية، 1987م

قدمت هذه الأطروحة استكمالاً لمتطلبات الحصول على درجة الدكتوراه

في التربية تخصص إدارة تربوية في جامعة اليرموك، إربد، المملكة الأردنية الهاشمية

أعضاء لجنة المناقشة

محمد علي عاشور.......................................مشرفا و رئيساً

أستاذ في الادارة التربوية، جامعة اليرموك.

عدنان بدري الابراهيم .... عضـــــواً

أستاذ في الإدارة التربوية، جامعة اليرموك.

حسن أحمد الحيارى ....عضـــــواً

أستاذ في اصول التربة، جامعة اليرموك.

خليفة مصطفى أبو عاشور.................................... عضـــــواً

أستاذ مشارك في الادارة التربوية، جامعة اليرموك.

باسم عيسى العتوم... عضـــــواً

أستاذ مشارك في الانثروبولوجيا الاجتماعية، جامعة العلوم والتتكنولوجيا الاردنية

نوقشت بتاريخ 6 / 11 / 2012م

bÉqøøøøøøøøøøljŰÉ

إلى روح أبي

يامن أحمل اسمه بكل فخر...............

إلى روح أمي

ينبوع الصبر والتفاؤل والأمل...............

إلى زوجتي الغالية

رمز الحب وبلسم الشفاء....................

إلى كل من أنار لي الدرب

أهدي هذا الجهد المتواضع..................

الباحث

طراد برجس الزعبي

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ƕƟƾƬǁƐ	ǅƐǋǆƴǁƐ	üǋǫǟǁƐ
80	ƔƥƐǫǕƐ 5ƗǦǕƗ ǌǫǅǁ ƕƗƥƑƗƴǅǁƐ ǀƑƺƐƥƟǆǕƐǋ ƕƗǦƑƨƟǁƐ ǀƑǗƨǋƗǅǁƐ .(ƕƴǅƑǟǁƐ) ƥƗƸƗǅǁ ƒƴǦƗ ƕƗǀƥƑƪƗǁƐ	**13** üǋǫǟ
81	ƔƥƐǫǕƐ 5ƗǦǕƗ ǌǫǅǁ ƕƗƥƑƗƴǅǁƐ ǀƑƺƐƥƟǆǕƐǋ ƕƗǦƑƨƟǁƐ ǀƑǗƨǋƗǅǁƐ .(ƕƗƗǀǁƐ) ƥƗƸƗǅǁ ƒƴǦƗ ƕƗǀƥƑƪƗǁƐ	**14** üǋǫǟ
82	ǅƗƗǅƗǫƑǀǕƐ ƔǫƑƾǁƐ ǀƐƥƗǫƾƗ ǀƑǗƨǋƗǅ ǅƗǦ ǫǫƴƗǅǁƐ ǅƗƑǦƗǁƐ üƗƗƟƗ ƔƥǦǫǁƐ) : ǀƐƥƗƸƗǅ ƒƨƟ ƕƗǀƥƑƪƗǁƐ ƔƥƐǫǕƐ 5ƗǦǕƗ ǌǫǅǁ ǅƗƗƥƐǫǕƐǋ .(ƕƗƗǀǁƐǋ ǕƕƴǅƑǟǁƐǋ ǕƕƗƗǅƴǁƐ	**15** üǋǫǟ
83	ǅƗƗǅƗǫƑǀǕƐ ƔǫƑƾǁƐ ǀƐƥƗǫƾƗ ǀƑǗƨǋƗǅ ǅƗǦ ƗƘǗƘǁƐ ǅƗƑǦƗǁƐ üƗƗƟƗ ƔƥǦǫǁƐ) : ǀƐƥƗƸƗǅ ƒƨƟ (üǀǀ ƔƐǫǕƐ) ǀƑǗƨǋƗǅ ǍƗƳ ǅƗƗƥƐǫǕƐǋ .(ƕƗƗǀǁƐǋ ǕƕƴǅƑǟǁƐǋ ǕƕƗƗǅƴǁƐ	**16** üǋǫǟ
84	ƥǋǫ ǀǕƑǟǅ ǕƗǅǟǁ ƕƗƥƑƗƴǅǁƐ ǀƑƺƐƥƟǆǕƐǋ ƕƗǦƑƨƟǁƐ ǀƑǗƨǋƗǅǁƐ üǀǀ üƑǟǅƗǁǋ ƕƗǅƗƭǆƗǁƐ ƕƺƑƾǁƐ ƦƗƦƗ Ǐƺ ƕƗǀƥƑƪƗǁƐ ƔƥƐǫǕƐ 5ƗǦǕƗ .ƒƗǁƦƑǆƗ ƕǦƗƥǅ	**17** üǋǫǟ
85	üƑǟǅǁƐ ǀƐƥƾƺ ǕƗǅǟǁ ƕƗƥƑƗƴǅǁƐ ǀƑƺƐƥƟǆǕƐǋ ƕƗǦƑƨƟǁƐ ǀƑǗƨǋƗǅǁƐ .ƒƗǁƦƑǆƗ ƕǦƗƥǅ " ƕƗǅƗƭǆƗǁƐ ǀƐǫƾƗƴǅǁƐǋ !ƗƾǁƐ " üǋǕƐ	**18** üǋǫǟ
86	üƑǟǅǁƐ ǀƐƥƾƺ ǕƗǅǟǁ ƕƗƥƑƗƴǅǁƐ ǀƑƺƐƥƟǆǕƐǋ ƕƗǦƑƨƟǁƐ ǀƑǗƨǋƗǅǁƐ .ƒƗǁƦƑǆƗ ƕǦƗƥǅ " ƕƗǅƗƭǆƗǁƐ ǀƑƴƼǋƗǁƐ" ƗƴƑƘǁƐ	**19** üǋǫǟ
87	üƑǟǅǁƐ ǀƐƥƾƺ ǕƗǅǟǁ ƕƗƥƑƗƴǅǁƐ ǀƑƺƐƥƟǆǕƐǋ ƕƗǦƑƨƟǁƐ ǀƑǗƨǋƗǅǁƐ .ƒƗǁƦƑǆƗ ƕǦƗƥǅ " ƕƴǦƗǅǁƐ ǀƑƨƑƨǁƐǋ ǅƗǆǋƾǁƐǋ ƕǅƭǆǕƐ" ƘǁƑƘǁƐ	**20** üǋǫǟ
89	ƔƥƐǫǕƐ 5ƟƗǦǕƗ ǌǫƟǅ ǀǕƑƟǟǅ ǅƗƟǦ (ǅǋƟƨƥƗǦ) ǕƑǦƗƥƌ ǀǗǅƑƴǅ .üǀǀ ƔƐǫǕƐǋ ƕƗǅƗƭǆƗǁƐ ƕƺƑƾǁƐ ƦƗƦƗ ǀǕƑǟǅǋ ƕƗǀƥƑƪƗǁƐ	**21** üǋǫǟ

5Θú DŽ‖ɛ hʋDŽəƑɜ

hʋΘƨT‖ɛ	DžƐNjǘy‖ɛ	üƨǂƨƗ
113	DžǐDž|ΘDž‖ɛ ƀɛƥɔ hʋǘƑĠƗƨɑ) hʋǐ‖NjǓɛ ƑNJƗƥNjƬƓ hʋƨƐƥơ‖ɛ ƔƐơɕ .(hʋǐ‖NjǓɛ ƑNJƗƥNjƬƓ	**1** ƼΘǂDž
121	.(!ǐ|Θǂ‖ɛ ơyƓ) hʋǐəƑNJǘ‖ɛ ƑNJƗƥNjƬƓ hʋǐƨǐəƥ‖ɛ hʋƨƐƥơ‖ɛ ƔƐơɕ	**2** ƼΘǂDž
129	DžǐDžƗΘDž‖ɛ ƨǐƥơƗ‖ɛ hʋəǐǉ ƀƑƮƳɕ ƔƤƗƑƨǓɛ ƀƑDžƨÐƓ hʋDžəƑɜ .(hʋƨƐƥơ‖ɛ ƔƐơɕ) hʋǘƑĠƗƨü‖	**3** ƼΘǂDž

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(2009 ÜƘǴšöǁƤ)

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Ǵùnjö5 Ƚödžöǁžƙ!ƒ Ƚöǁdžž!ƒ lƥĂɳ ăĂƙƪdžĂ Ƚödžöǁžƙ!ƒ ȽdžƲǉǕƒ ȽöǁƵǴ5 ǇǇdž ƥöɚö Ǵdžǂ ƻĂƧƲ!ƒ ǉƦǋ ẏdž ƻöǂƙǁ!

.(2006 ǕǇǇöƪơ)

ǇǇùdž ẛƥùöɚdž Ơöƙö Ǵdždž ǕȽödžöǁžƙ!ƒ ƘƒƧƒƥǗƒ Ŏ5 ẛƥöƥɳ ǽöƧƒƥǫ ǚƤƥdž Ƚöǂ ƧǴƬƙ!ƒ lƧƒƥǗƒ ƧǁƙžƙĂ

ƘƒƧƒƥǫ ǁǴùǉǋ ǇǇùǂö Ǳù! ǇǇ5 Ǖẏdžƙɳdž!ƒ Ǐǁƶ Ǵnjơǵƙ5ǉƒ ȽöǉǴǂdžǫĂ .ƘƒƧƒƥǗƒ ǉƦnj! ŎƙƒƦ!ƒ Ǳǂơƙ!ƒĂ Ǳǂơ!ƒ

ǕƘƒƧùǯƙdž!ƒĂ ƘǴöƥùơƙ!ƒ ȽnjɳƒĂdž Ǐǁƶ lƧƥǴƥĂ ǕǊƙǴöǉlƙĂ ƧƮžǁ! ȽǁƵĂƙƪdžĂ ǕȽö!ǴƵ lǴǴ5ǂ ƘƒƦ Ƚödžöǁžƙ

lƌù5ǂ!ƒĂ ȽùǁƵǴ5!ƒ ȽöƙƒƦ!ƒ Ƚödžöǁžƙ!ƒ lƧƒƥǗƒ Ƙơǁ ƮǋǁƦ! ǕǐƧǋĂɳ ƧĂƱƙ ǐǋ ǱǴǲǋ Ƚǁlƶ ǇĂǂƙƪ ǴnjǉǇ5

ƧǴùǋɚǕƒĂ Ǳƥùlƙ!ƒ ƽùölơƙĂ ǅƒƥǕƒ Ŏ5 ɚödžƙ!ƒ ǇƵ Ƚơǁƙ Ŏƙ!ƒĂ ǕȽödžöǁžƙ!ƒ ȽdžƲǉǕƒ ǉƦnj! ǽöƪǴƪǋ ǽǁǁƱdž

ǕȽùöǁƤƒƥ!ƒ ǊùƙǵǴlƛĂ Ǖẏdžž!ƒ ȽƑöǁ ǱĂnj5dž Ŏ5 ǐƧƦɳ!ƒ Ƨööǯƙ!ƒ Ǐ!ǫ ǐƥƌƙĂ ǕƘǴžǳƙɳdžǁ! ȽǁdžǴƬ!ƒ ȽödžǉƙƒĂ

.ȽödžöƲǉƙ!ƒ Ƚ5ǴlƛǴǁ ƻƧžƙ Ŏƙ!ƒĂ ǕȽƪƪƌdž!ƒ ẏƤƒƥ lƥƑǴƪ!ƒ ƥö!ǴlƙƒĂ ƘǴƪƧǴdždž!ƒĂ Ǖẏdžǳžƙ!ƒ ȽlöƧƱĂ

ĂǋȽùdžƲǉdžǁ ƱǁƙƧǉ ƘǴƵǴdžɳĂ ƥƒƧ5ƌǂ ǇǇơǉ5 ǕǴǉƙǴö ǇǇdž ǽdžnjdž ẛǅɚɳ ǱĂö!ƒ ƘǴdžƲǉdž!ƒ ƥžƙ ȽöơĂ

ǁĂǁùƪ Ƨöƪùƽƙ! ǐƧƒƥǗƒ ǱöùƲǉƙ!ƒ ẏǴùɳdž Ŏ5 ǏƙƬ ƥĂnjɳ Ƙ!ƦǁƥƥĂ Ǖẏdžž!ƒ ẏǴɳdž Ŏ5 ȽƮǴƤĂ ƧƛǂƌǁƑ

Ǵùnjö5 ǐƧùɳö Ǵdž! ẏdžǴǂ!ƒ ƧöƪƽƙƑ ǇǇdž ǴǇǉǂdžƙ ȽɳƧƥ Ǐ!ǫ ƥžǁ ẏƮƙ Ǳ! ƘƒƧöƪƽƙ!ƒ ǉƦnj ǇǇǋ Ǖǫ ǕƘǴdžƲǉdž!ƒ

ȽùödžöƲǉƙ!ƒ ƘǴùöƧƲǉ!ƒ ǉƦùǋ ƧĂƱƙ ƧǴƱǫ ŎƙĂ ǕẏǁlƙƪƙdžƪƒƙŎ5 ǴnjöƙƵ ǐƧɳöƪ Ǵdžǁ ƌǁǉƙƒĂ ǴnjöǁƵ lƧƱöƪ!ƒĂ

ǴùnjƙƵǴlƛ Ƚdžǉǉdž ẏǂ! ǇǇǋ ȽöƧƲǉ!ƒ ǉƦnj ăĂơ5Ă ǕȽödžöƲǉƙ!ƒ ȽƵǴlƛ!ƒ ȽöƧƲǉ Ǳƪǁ Ǐdžƪǁ ȽöƧƲǉ ǽǁöƥơ ƘƧnjǇǋ

ƥƒƧ5ǕƒǴnjǇĂǂö.Ŏƙ!ƒ ȽöƪǴƪǕƒ ƘǴưƒƧƙ5ǕƒǱĂǱö!ƒĂ ȽdžƲǉdžǁ! ȽƪĂdžǁdž!ƒ ƔǉƒĂɳ!ƒ ǇǇdž ǇǇĂǂƙƙ Ŏƙ!ƒ ȽƮǴƤ!ƒ

.ȽöɳƧǴƤ!ƒ ǴnjƙƑöǁĂ ǱnjƙǴdžƲǉdž ẏĂơ

ƥƒƧù5ǕƒǁĂǁùƪ Ǐùǁƶ ƧöƛƌùƙƒŎù5 lƧùöǁǂ ȽödžǋǇǋ Ǵnj!Ă ǕǇǇǴƪǉǕǴǁ ȽƮǴƤ lƧǋǴƲǉ ȽƵǴlƛ!ƒ ƥžƙĂ

ǱǋƥùöĂɚƙ Ŏù5 ǱnjƪƙĂ ƥƒƧ5ǕƒǊö5 ƫöžö ǐƦ!ƒ ẏdžƙɳdž!ƒ ǇǇdž ǱǁžƙǴǁ ǇǇǴƪǉǕƒ ǴnjǁƪƙǂöǁƒǄǴ ǕƘǴƵǴdžɳ!ƒĂ

ǴdžǁĂ ǕƘǴdžƲǉdž!ƒ ẏƤƒƥ Ǌǁ ǱǴöǁ!ƒ ǱnjǉǂdžǴ ǐƦ!ƒ ƧĂƥ!ƒ Ǳnj! ŎƱžĂ ǕǱnjǉǂǁǴ Ǵdžö5 ẏǴƮƙǕƒ ƽölơƙ Ǐǁƶ lƧƥ!ǁ

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ŁŏĿnjdž!ƒ DžnjĸĢŵɳƒĂ Cƒƥ LJdž DžnjĿŏǂdžķ! Ɣǚƪ!ƒ ƥƒƥƵ ǑƼ Yƒƥ ŵǗƒĂ ƖĈƼǂ!ƒĂ ƨŏdžķ!ƒ ƧŏŏĢƶdž ƥĢdžķƵƒ.3

.ŁŏĿŵƖķƪdž!ƒ

ƧùƛƒLJùdž ǁ!Ʀù! ĢùdžĂ ƘƒƧƒƧl!ƒ ŁƵĢĿƮ ǑƼ ŁŏǂƧĢƬķ!ƒ Dƥŵdž ŁŏdžNjD ăƧĿ ƧĂƱĿdž!ƒ ƒRNj LJdžĂ

.ŁŏƵƒƥŵǗƒ ƘƒƧƥl!ƒ ƧŏĂƱķĂ Łlŏlơ!ƒ LJƵ ł ơŵ!ƒĂ ŁƼƧƶdž!ƒ ƜĢķĿ ǏƵ ǺŏŵĢɳŏƒ Ʃ ǂƶĿŏƪ

:ŀŵĭǁƑǂǁɛ ŀŵǂǝƨǗɛ DžY ŀŵĢƑƜǕɛ ǫĭǫƟǂǁƑĢ ŀŵƨɛƥǫǁɛ LJƤĿ l ǁNjƑƟ

ŁùnjɳĂ LJùdž ŁŏdžĂǂơ!ƒ ŁŏĿƥƧǕƒ ƘĢƶdžĢɳ!ƒ ǑƼ ŁŏǂƧĢƬķ!ƒ ƖƧƒƥǘ! LJŏdžŏƥĢǂǕƒ ƖƥĢl!ƒ ƭŏŵƱķ ăƥdž Ģdž -1

ÞDžNjƧƱĿ

ƘĢŵĢɳķùƪƍ ƘĢƱùƪĂķdž! (0.05 = α) Ł!ǗƥǃƒăĂķƪdž ƥĿƵ ŁŏƑĢƮơƍ Ł!Ǘƥ ƘƒƦ ƭĂƧƼ ƥɳĂķ ýNj -2

ăƨùƶķ ŁùŏdžĂǂơ!ƒ ŁùŏĿƥƧǕƒ ƘĢùƶdžĢɳ!ƒ ǑƼ ŁŏǂƧĢƬķ!ƒ ƖƧƒƥǗƒ ƭŏŵƱķ ăƥdž! LJŏŏdžŏƥĢǂǕƒ ƖƥĢl!ƒ

Þ(ŁƶdžĢɳ!ƒĂ ÜŁŏlldžƶ!ƒ ƖƧŵƤ!ƒ ƘƒĂĿƪĂ ÜŁŏlǂ!ƒ) ƘƒƧŏƷķdž!

ŁnjɳĂ LJdž ŁŏdžĂǂơ!ƒ ŁŏĿƥƧǕƒ ƘĢƶdžĢɳ!ƒ ǑƼ ŁŏdžŏƱĿķ!ƒ ŁƼĢlƛ!ƒ ƨŏƨƶķ ǑƼ ŁŏǂƧĢƬķ!ƒ ƖƧƒƥǗƒ ƧĂƥ Ģdž -3

ÞLJŏŏdžŏƥĢǂǕƒ ƖƥĢl!ƒ ƧƱĿ

ŁƼĢlƛ!ƒ ƨŏƨƶķ LJŏŵĂ ŁŏǂƧĢƬķ!ƒ ƖƧƒƥǘ! LJŏdžŏƥĢǂǗƒ ƖƥĢl!ƒ ƭŏŵƱķ ăƥdž LJŏŵ ŁŏƱĢŵķƧƍ ŁƥǚƵ ǁĢĿNj ýNj -4

ÞŁŏdžĂǂơ!ƒ ŁŏĿƥƧǕƒ ƘĢƶdžĢɳ!ƒ ǑƼ ŁŏdžŏƱĿķ!ƒ

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lƧƒþƒ LJƪùơƨ ƠďƪùƙĂ ÜĦ!ƇƇƪùďž!ƒ Ɖþƨďž ƾöƨƱƙĂ ÜƘƒƧƒƧl!ƒ ƦƇƤƙƒ Ŏ5 ĦöƵƧƬ!ƒ lþƇöl!ƒ ƔƪǂƘ (6

.ljƧƇďžƛƙƪƒĂ ƘpĂ!ƒ

ƕŏlþƑƪǂǁɛ ƔþɛƣǕɛ ƛNJďžĎž ƑNJĭǂƳ !NJƾĭ Ĭǂǁɛ ƍƣƑƇĎžǁɛNj Ƨ ƨǕɛ

lƧƒþǗƒ ƇùnjöǁƵ ĎžĂùlƙ Σ ùƪĎĂ ƟþƇùƕďž LJùďž þùƕ ǖ5 Ƈnj5ƒþNjĎ ĦöǂƧƇƬƙ!ƒ lƧƒþǗƒ ƾlơƙ Ĭƙơ

:ŎƙǓƒ Ŏ5 (2008) ŎďžƞƶƵ!ƒ ƇnjljöƕƇďžǂ ĦöǂƧƇƬƙ!ƒ

:þɛþƾǁɛ Ʊďž Ƭ Ĭƺ ƕlþƑƪĎžǁɛ .1

ƧĂƶƬù!ƒ LJďžƯùƙ Ħùöơ ÜĦöǂƧƇƬùƙ!ƒ lƧƒþǗƒ ýƤþùďž ýùöƶ5ƙ LJƇďžƯ! ýĂǕƒ ΣƇƪǕƒ þƶƙĂ

þƒƧù5Ď Ưùƶƕ ǁƧƇƬùöĂ ÜŎùďžöǁƶƙ!ƒ ƴùďžƙƞďž!ƒ Ŏù5 LJöǁďžƇùƶ!ƒ ƴöďžƞ! Ďžƒƨƙ!ǗƒĂ ĦöƵƇďžƞ!ƒ Ħöǂǁďž!Ƈƕ

ĦùďžƱljďž!ƒ ƘƒƧƒƧùl!ƒ ĦƵƇljùƮ Ħùöǁďžƶ Ŏù5 Ħùöďžöǁƶƙ!ƒ ĦùďžƱljďž!ƒ ƧöþďžNJƙƇƪƪƌďžĂ Ŏǁơďž!ƒ ƴďžƙƞďž!ƒ

.Ħöďžöǁƶƙ!ƒ ĦďžƱljďž!ƒ ýƤƒþ ĎžƇƱlj!ƒ ƱƕƯĂ ýďžƶ!ƒ Ƨöƪ LJƪơ!

:ƕƯǂƨǁɛ ƕĭƦlþĎžǗ .2

lƧƒþƍ LJùďž Ƨùöƛǂ!ƒ ƔùǁƱƙö Ŏùďžöǁƶƙ!ƒ ƴùďžƙƞďž!ƒ ýùƤƒþ ĦöƨǂƧďžǖ!ƒ Ɖþƨďž! ýƇƶ5!ƒ ƾöƨƱƙ!ƒ LJĎ

ƾùöƨƱƙ Ŏù5 ĦùljĂƧďž!ƒĂ Ƈùnjö5 ƯöĂù5ƙ!ƒĂ ƘƇƱǁƪù!ƒ Ưùƶƕ ýùlj Ŏ5 ĦƕƩƧ!ƒ Ħöďžöǁƶƙ!ƒ ĦďžƱljďž!ƒ

Ŏùƙ!ƒ ƘƒƧƒƧùl!ƒ ƦƇùƤƙƒ Ŏù5 ƯöĂù5ƙ!ƒĂ ÜŎùďžöǁƶƙ!ƒ ƴďžƙƞďž!ƒ ýƤƒþ ĦďžƱljďž!ƒ ĦöĂƕƧƙ!ƒ ƘƇƶöƧƬƙ!ƒ

lƇùƵƒƧďž ƴùďž ƒƦùNj ýùǂ ÜĦö!ĂƌƪùďžƇ!ƒ ýďžơƙ Ŏ5 ǂǂƧƇƬďžĂ ƇƒþǕƒ lþĂƞĂ ýďžƶ!ƒ Ƨöƪ LJƪơ LJďžƯƙ

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.3 [illegible]

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.4 [illegible]

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[illegible] (2009) [illegible] (2004) [illegible]

-1 [illegible]

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[illegible] (2002) [illegible]

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[illegible] (1997) [illegible]

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:ƕŤYƑDŽŦƜŰɛ ƦNjDŽƥǁɛNj ƖŰNjƯǁɛ - 5

ýǴùƛdžĂ ƖĂƥǀǂ ƦƤƋƘĂ ÜljƧŏƹĂ ơŏƧǴƘ!ƒĂ ƖƧƒƥŰƒĂ ǂƪǴŏƪ!ƒ ýǴƞdž Ŏ5 ƖƥǴǀ!ƒ ƒ Ƭƿ Ŏ5 ýƛdžƘƘĂ

.ǂƛŏƥơ!ƒ ýdžƶ!ƒ ƘǴdžƱǈdž Ŏ5 NJƕ ăƦƘơŏ

: ƖƑĭƑǀƟǁɛNj ƫ Ƭƨǁɛ - 6

ĂƉ Üĭ ƧƒƥƍƨǴùnjƞ ƧĂƱƘ ǂŏƨŏǂ LJŏƨƱĂdžǁ! Ŏǂơǉ LJƉ ýƛdž ÜǂǈŏƶdžǂǂǴƪƧ Ʃǂƶƙ! ǴǃǴƹ DžƥƤƘƪƘĂ

.ƧĂƱƘ!ƒ ǂŏǁdžƵ ƘnjƞƒĂ Ŏƙ!ƒ ƘǴƕĂƶƬ!ƒĂ ÜǂǈŏƶdžǂdžƱǈdž

:ƑNJdžDŽNj ƕŤDŽŤưdžǂǁɛ ƕƺƑƨƙǁƑǴ ƕƨǂƴǂDŽǁɛ ƫ ǝƑƬƢǁɛ DžDŽ ƕYNjDŽƜDŽ ƿƑdžǉ Džƈ (1995) ƥDŽƨ DžĭǴ ơƨǁNj

.ƖƧƱǴƤdž!ƒĂ YƒƥƕŰƒ Ŏǁ Ƶ LJŏǁdžǴƶ!ƒ ýőƞƬƙ ǂƞƧƥ :ƔƥƯƑƢDŽǁɛNj Ʊɛơ ǴŰɛ - č

.ýŏƬǴƨƙǁ! LJŏnjƕƙǈdž LJŏǀŏƿƥ ƒĂǈĂǂŏ LJƉ LJŏǁdžǴƶ!ƒ LJdž ǴnjŏƨýƿĂƙŏ Ŏƙ!ƒ ǂƞƧƥ!ƒ :üĭƬƑƧǂǂǁ LJƑǴǂdžŰɛ- Ď

ƘǴùŏǉǀƙ!ƒ Ʃŏù!Ă ƘǴùƞƧƤdž!ƒ ĂƉ ÜNJƑǴùƙǉ!ƒ Ŏǁ Ƶ ƖƧƒƥŰƒ ƨŏǂƧƙ ǂƞƧƥ :ƛǝƑǂdžǁɛ NjƟdž LJƑǴǂdžŰɛ- ď

.NJƑǴƙǉ!ƒ ljƦNj ƨŏǀơƙ! ǂdžƥƤƘƪdž!ƒ ƘǴŏǁdžƶ!ƒĂ

.ǂdžƱǈdž!ƒ ýƤƒƥ ƥƒƧƨŰƒ Ŏǁ Ƶ ǴNjƧŏƛƋƘƕ ƖƧƒƥŰƒ DžǴdžƘNjƒ ǂƞƧƥ : ƧƑdžǁɛ NjƟdž LjƜNjǂǁɛ- Đ

.ƥƒƧƨŰƒ Ŭ ƨƧƨ!ƒ ýĂơ ýdžƶ!ƒ ƘǴŏ!Ǵƶƨ DžŏƱǉƙ ǂƞƧƥ : ƨĭƥƧǁɛ NjƟdž LjƜNjǂǁɛ- đ

.Džnjƶdž ýdžǴƶƙ!ƒ ǂŏƥĂĂ ǂ!Ănjƪ Ŭ ÜDžnjƪƨǴǉƙĂ ƥƒƧƨŰƒ ǂŏǉƒĂƥƵ ǂƞƧƥ : ƕĭdžɛNjơƴǁɛ- Ē

Ădžǉ!ƒ LJdž Ŭƥƕ ǂǉNjƒƧ!ƒ ǂ!Ǵơ!ƒ Ŏǁ Ƶ ǂƱƨǴơdž!ƒ ǂdžƱǈdž!ƒ ƘǴŏ!Ǵƶƨ ƥŏǂƋƘ ǂƞƧƥ : ƖƑǴƙǁɛ- ē

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[illegible]:

[illegible]

[illegible] (Pang,1998) [illegible]:

[illegible] - [illegible]

[illegible] - [illegible]

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[illegible] - [illegible]

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[illegible] (2004) [illegible]

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[illegible] (2002) [illegible]

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4- [illegible]

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[illegible]:

1. [illegible].

2. [illegible].

3. [illegible].

4. [illegible].

5. [illegible] (Mombusho) [illegible].

ƧǴùǂ5ǕƒĂ ƜƦǴùďžǉ!ƒ ƧōĂƱƙ ǴnjǉďžƧƲƙǉō ƘǴżďžǴƞ!Ǵ5 ÜƗǂƧƙŢďž!ƒ ƗĂơƕ!ƒ ǈďž ƀƒǴ5 ƧƕǂƊ ƨōƨżƙ .6

ƾùōƧƱ ǈƵ ƘǴżďžǴƞ! ƀƵǴƪďž!ƒ Ďžƀƙ ǈƊ ǴnjǉďžƧƲƙǉō ƗƵǴǉŢ!ƒĂ ÜǴōƞĂ!Ăǉǂƙ!ƒ ýƖǉ Ŏ5 ƀōƀƞ!ƒ

.ĎžnjƙōƞǴƙǉƍĂ ĎžnjƙǴƵƒƀƕƍ ƨōƨżƙ! ƗōǉǴƕǴō!ƒ ƘǴżďžǴƞ!ƒ ƗƕƱ! ƗōƕōƧƀƙ Ǌďžƒƕ Ɨƒƀơƍ

ĎžǴùƵ Ŏ55 ÜƗōǉǴƕǴō!ƒ ƴǉǴŢďž!ƒĂ ƘǴżďžǴƞ!ƒ ǈōƕ ƗǂƧƙŢďž ƗōƕōƧƀƙ Ǌďžƒƕ ǴǴŢǉƍ Ďžƙ ǁ!Ʀ ǏƵ ǴǴǉƕĂ

ǴùōƞĂ!Ăǉǂƙ! ĂùōǂĂƱ ƀnjżďž ƧōƀďžƗƪǴƒƕ Working Group (WG) Ǐďžƪƙ Ɨǉƞ! ǴǴŢǉƍ Ďžƙ 1997

Sony ƗǂƧùŢ ýƛďž ǈǴƕǴō!ƒ Ŏ5 ƗōƞǴƙǉǕƒ ƘǴƪƪƌďž!ƒĂ ƘǴżďžǴƞ!ƒ ǈĂƙƛďžō ƺĂưƵ 15 ǈďž Ɨ5!ƌďž (TIT)

ǈùďž ǴnjƧōƺĂ Toyohashi ǴōƞĂ!Ăǉǂƙ!ƒĂ ĎžĂƙż! ŎŢǴnjĂōĂƙ ƗżďžǴƞĂ Hitachi ƗǂƧŢĂ NTT ƗǂƧŢĂ

.ƘǴżďžǴƞ!ƒĂ ƗōƞǴƙǉǕƒ ƘǴƪƪƌďž!ƒ

ƴùưĂĂ ÜƴǉŢùďž!ƒĂ ƗùżďžǴƞ!ƒ ǈōùƕ ƗǂƧƙŢùďž!ƒ ǴōǴư!ƒ ƗƪƒƧƀ Ǐ!ƍ Ɨǉƞ!ƒ ǉƦǊ Ƙ5ƀǊ ƀƥĂ

ýƺǴŢùďž!ƒ Ŏù5 ƘǴżďžǴƞ!ƒ ƗƕƱ ƔōƧƀƙ! ƗƕƪǴǉďž!ƒ ƘǴō!Ǖƒ ƴưĂĂ ÜǈĂǴżƙ!ƒ ƀǴōƨ! ƗƕƪǴǉďž!ƒ ƘǴōŢĂƙ!ƒ

.Internships Ďžƪƒ Ǌďžƒƕ!ƒ ǉƦǊ ǏƵ ƾƱƊĂ ÜĎžǊƀǉƵ ƧǴǂƙƕǕƒ ƗƞƧƀ ƴ5Ƨ! ƴǉǴŢďž!ƒĂ

ƗùżďžǴƞ ýùƛďž ƗōƪƀǉƙĂ Ɨōďžż! ƘǴŢŢƤƙ!ƒ ƟƧƱƙ Ŏƙ! ƗōǉƀƧǕƒ ƘǴżďžǴƞ!ƒ ǈďž ƀōƀż!ƒ ǈƍ

ƘǴƪùƪƌďž!ƒ ƴùďž ǈĂǴùżƙ!ƒ ǈďž ƳĂǉ!ƒ ƒƦǊ ƳǴƕƙǗ ƗǊƌďž ƗōƖƕƱƙ!ƒ ǴǴƖƕ!ƒ ƗżďžǴƞĂ ǴōƞĂ!Ăǉǂƙ!ƒĂ ĎžĂƙż!ƒ

ÜƗùōďžōżƙ!ƒ ǴnjƞďžƒƧƕĂ ǴnjƱƱƤ Ŏ5 ƘǕōƀżƙ Ǵƒƨƞƍ Ǐ!ƍ ƗƞǴơƕ ǴnjǉǂĂ ÜǈƀƧǕƒ Ŏ5 ƗōƞǴƙǉǕƒĂ ƗōƵǴǉŢ!ƒ

ƔùǴƱ!ƒ ƔƪùǂōǊ ǊùǉĂǂ ÜƜƧƤƙ!ƒ ƘǴƕƱƙďž ǈďž ƜǴƙǉǕƒĂ ýďžż!ƒ Ďž!ǴƵ Ǐ!ƍ ƔǴƱ!ƒ ýĂƤƀ ýżƞƙ ƗōơƕƏ

Ǐù!ƍ ƀùƒǴ5!ƒ Ďžƀƙō Ŏ!ǴƙǴƕ ƒƦǊĂ Üýďžż!ƒ Ďž!ǴƵ ýƤƀō ǈƊ ýƕƥ ƘƒƕƤ!ƒĂ ƧǴżďž!ƒĂ ƘƒƧǴnjďž!ƒ ǈďž ƀōƀż!ƒ

.(ƴďžƙƞďž!ƒ Ŏ!Ǵƙ!ǴƕĂ ÜƗōƞǴƙǉǕƒ ƗƪƪƌďžƒĂ ÜƗżďžǴƞ!ƒĂ ÜƔ!ǴƱ!ƒ) ƧƒƧƱǕƒ ƴōďžƞ

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[illegible]

[illegible]:

1. [illegible].

2. [illegible] (MITI) [illegible] (STA) [illegible] .(Mombusho)

3. [illegible] .JSPS

4. [illegible].

5. [illegible] 56 [illegible].

[illegible]:

[illegible] (2006) [illegible]:

1. [illegible] (Joint research) [illegible] 326 [illegible] .1994

ŀĂùơƕ!f ƇfƧƞǀùƕ Ŀùƶǆƞ!f ǊĂǀƙ ŀǒơ :(Jutaku-   Kenkyu) ƧƞǕf ŀƵĂ5ƥǆ ŀĂơƕ .2

ŀǉùƪ Ŏ55 .ǋǉǆ ýǒĂǆƙƕĂ ŎƞǉǕf ƳƓƱǀ!f ŀơǀƬǆ! ǁ!ƦĂ ǊnjƙfƧƕƤĂ ƓnjǒƛơƓƕ ǏǁƵ ǯƥƓǆƙƵf

.ŀǒƞƓǉǕf ƘƓƪƪƋǆ!f ýƕp Ǉǆ ŀǒƛơƕ ýǒƧƓƮǆ! ƥǀƵ 2586 ýǒpĂƙ Ǌƙ 1994

ƓùnjĂǆƙ Ŏùƙ!f ŀĂùơƕ!f ƇfƧƞǀùƕ ŀǒǉƱĂ!f ƘƓƶǆƞ!f ǊĂǀƙ ŀǒơ (Kihu) ƘƓnj!fĂ Ơǉǆ!f .3

ƇƓù5Ƶǀƕ ǁ!Ʀù! ŀùƞǒƙǉ ŀǆĂǂơ!f ǊĂǀƙĂ ÜƘƓnj!fĂ Ơǉǆ!f ƽǒƧƱ ǇƵ ŀǒƵƓǉƬ!f ƘƓƪƪƋǆ!f

Ơǉùǆ!f ǈƦùǋ ƘǀùƬĂ ƥùpĂ .ŎùƑƨƞ ĂƊ Ŏǀǂ ýǂƮƕ ŀƕǒƧư!f ǇǆŀǒƞƓǉǕf ƘƓƪƪƋǆ!f

.ŀƕǒƧư!f ǇǆƖƓ5ƶǆ ƧǕĂƥ ǇĂǒǀǆ 425.2 Ŏ!fĂơ Ǐ!ǫ 1994 ǊƓƵ ƘƓƵƧƕƙ!fĂ

ƽĂ5ƙ!Ɠƕ ŀƕƸƧ!f ǏǁƵ Ƨǒƕǂ ýǂƮƕ ƨǂƧƙǒ , ŀǒƞƓǉǕf ƘƓƪƪƋǆ!f ǇǒƕǇĂƓƶƙǀ! ƧǒƕǂǄ!f ǊƓƓǆƙǋǕf Ǉǫ

ŀǒƵƓǉƬù!f ƘƓƪƪƋǆǀ! ǇƓƕƓǒ!f Ŏ5 ƖƥǒƥƞǄ!f ƘƓƪƓǒƪ!fĂ ǇǒǉfĂǀ!f ƘơǆƪƥpĂ,ƖƥǒƥƞǄ!f ƓǒƞĂ!Ăǉǂƙ!f ƧƓǂƙƕfĂ

ǇĂùǒǀǆ(1503) ǇùǆƧùƛǂƊ1986 ǊƓƵ ƘƷǀƕ Ŏƙ!fĂ ,ŀǒǆǒƥƓǂǕf ƘƓƪƪƋǆ!f Ŏ5 ƓnjƙǆǋƓƪǆ ƖƥƓǒƨ ǏǁƵ

ƘƓƪùƪƋǆ!f ǈƦùnj! Ơǆùƪ Ɠùǆǂ,ƧǕĂƥ ǇĂǒǀǆ (3918) Ŏ!fĂơ Ǐ!ǫ ýƬƙ! 1996 ǊƓƵ Ƙƶ5ƙƧf ƧǕĂƥ

ƘƓƪùƪƋǆǀ! ƥƵƓǀǆ Ơǉǆƙ Ŏƙ!f ƘƓƶǆƞ!f ƥƥƵ ƩǀƕƥpĂ,ƘƓƶǆƞ!f ǇǆǇǒƕĂǋĂǆǀ! ƥƵƓǀǆ ǏǁƵ ýĂƬơ!Ɠƕ

.ŀƶǆƞ 98 ŀǒƵƓǉƬ!f

:üǀƪ Ăǂ !ƳǁǁƐ ƐƤǀj ǊǋǀǏ ǫ5ǋ

-1 ƳƥƧ ƔƙfĂƧ ǇǒǀǆƓƶ!f ǇǒƛơƓƕǀ! Ŏ5 ǋƨǂfƧǆ ŀĂơƕ!f ƨǂfƧǆ ǊnjǅǒƧ5ƙĂ ýǆƵǀ! ƓnjǒƓ5.

-2 ƖƥƓǒƨ ŀơƓƪǆ ƘfƧƕƤǆ!f ƘfƧƕƤǆ!fĂ ýƸƓƮǆ!fĂ.

-3 ƥǒĂƨƙ ýƸƓƮǆ!f ƘfƥƶǆƓƕ Ƙfƨǒnjƞƙ!fĂ.

-4 Ơǉǆ ƘƓǋǉĂ ǕƵưƓƇ ŀƑǋǉ ƥƧƥƙ!f Σǒ.

f ƤǕƓùƕĂ,ƗùŏƞƧƓƤ!f ƘƓùƶƋƓƞ!fĂ ƗùŏǇƓƕƓŏ!f ƘƓƵƓǇƮ!f Ǉŏƕ ǁƧƙƮƋ ǇĂƓƶƙ ǁƓǇǋ Ǉǫ ƓƋǂ

ǇŏƕƓùƋ ƖƧùƙƽ!f Őù5 ƘǀƽǇƊ ƥƿ ƗŏǇƓƕƓŏ!f ƊĂǁƶ!fĂ ƗŏƕƧƙ!f ƖƧfƨĂ ƘƓŏƑƓƮơǫ ƔƪơĂ.ƗŏǂŏƧƋǕf ƘƓƶƋƓƞ!f

ƗĂùơƕĂ ƘfƧùƕƤ ýùƕƓƖƋ ƗŏǂŏƧƋǕf ƥƧƓ5ƧƓǋ ƗƶƋƓƞ Ơ!ƓƮ! ƧǓĂƥ ǇĂŏǁƋ 93 ƸǁƕƋ 1991 - 1986

.ƗŏǇƓƕƓŏ!f ƘƓǂƧƬ!f Ơ!ƓƮ!

ƘƓùƶƋƓƞ!f f ƤǕƓùƕĂ ,ƗŏƞƧƓƤ!f ƘƓƶƋƓƞ!fĂ ƗŏǇƓƕƓŏ!f ƘƓƵƓǇƮ!f Ǉŏƕ ǁƧƙƮƋ ǇĂƓƶƙ ǇƊ ƓƋǂ

ƥƧƓù5fƧ ƗùƶƋƓƞ Ơ!ƓƮù! ƧǓĂƥ ǇĂùŏǁƋ 93 ƸǁƕƋ 1991-1986 ǇŏƕƓƋ ƖƧƙƽ!f Ő5 ƘǀƽǇƊ ƥƿ ƗŏǇƓƕƓŏ!f

.ƗŏǇƓƕƓŏ!f ƘƓǂƧƬ!f Ơ!ƓƮ! ƗĂơƕĂ ƘfƧƕƤ ýƕƓƖƋ ƗŏǂŏƧƋǕf

ƊĩƳơƓƊǁƐ 5ǋƾƟ

ƗùŏƓƋơ ǇùƋ ƥùƕ ǖù5 ƗƵƓǇƮù!f ƳƓùƱƿ Ĭù!ǫ ƗƶƋƓƞ!f ǇƋ ƗĂơƕ!f ǈƑƓƙǇ ýǀǇ Ɗƙŏ Ĭƙơ Ă

ƗơƓƕǁ! Ɠƽǫ ƥĂƶƙ ƳfƧƙƤǓf ƖƓfƧƕ ǇƓ5,ƗŏǇƱĂ!f ƘƓƶƋƓƞ!f Ő5 Őƽǁƶ!f ƗơƕƠ!f ƨƓƞǇǫ Ɗƙŏ ƓǋƥǇƵĂ,ǇŏƵƥƕƋ!f

Ɠùǌŏǁ Ƶ ýƮùơ Őùƙ!f ƘǕŏǌƪƙ!f ĂƊ ƗơƓƕ!f ǇƓǀƙ ǏƦ!f ƊƵƥ!Ɠƕ ƽǁƶƙƙ ƗƼĂƧƶƋ ƧŏŏƓƶƋ ǇƋư Ɨ!Ăƥ!f ĂƊ

ǇŏƵƧùƙƤƋǁ! ƥĂƶƙ 382Ă ƗŏƋĂǂơ 66 ƓǌǇƋ ǕƳfƧƙƤf ƖƓfƧƕ 448 ýŏƞƪƙ Ɗƙ 1996 ƊƓƵ Ő5Ă.ǊƋƓƋƙǗ

.(189 Ü2003 ǕƔŏƱƤ!f) Ɗǌƪ5ǇƊ

ƗùŏƞƓƙǇǗf ƘƓƪƪƋƋ!fĂ ƴƋƙƞƋ!f ƗƋƥƤ Ő5 ƗƶƋƓƞ!f ƧĂƥ ǇƵ ƗǁƛƋƊ ƗƛǖƛƧ ƨfƧƕǫ ýĂƓơǇƪ ƓǇǋĂ

:ƴƋƙƞƋ!fĂ ƗƋĂǂơ!fĂ ƗƶƋƓƞ!f Ǉŏƕ ƗǇŏƙƋ!f ƗŏƞŏƙfƧƙƪǗf ƗǂfƧƬ!fĂ ǕǇƓƕƓŏ!f Ő5

:**Kanagawa** [illegible]

[illegible]

[illegible] 1993 - 1983 [illegible]

[illegible] (400) 1979 [illegible] 4 [illegible]

[illegible] (%15,6) [illegible] (885) [illegible] 1993

[illegible] (60) [illegible] (320) [illegible]

[illegible] 1989 [illegible]

:[illegible]

[illegible] Ksp, Inc. .1

[illegible]

.[illegible]

[illegible] .2

[illegible]

.[illegible]

.[illegible] .3

[illegible]

.[illegible]

[illegible] 1987 [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

.(Ministry of Economy , Trade Industry, Japan, 2003)

[illegible] 1989 [illegible] (ICR) [illegible]

[illegible]

[illegible]

[illegible]

Kansai Science [illegible]

Nara, Osaka [illegible]

[illegible] and Kyoto

[illegible] .1869

[illegible]

[illegible]

(2006)

1.

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3.

4.

1.

2.

3.

4.

:(198 ،2006

1. [illegible] 1876 [illegible] 1896 [illegible].

2. [illegible].

.3 [illegible]

.4 [illegible]

Σþùǀdž ƨùơ Džǁƶƙǃƒ LJD" :LJD ljþĜƽdž ƗǄdžNjǕƒ Ƹ!Ĝǀ ƧĜƶTǀ ƗǀpĜƶƙdž!ƒ ƗǄLjĜǀĜǄ!ƒ ƘĜdžĂƗơ!ƒ Ƙƚ Ɩdžƙ þǀ! .5

ýùƚ ǀƧþùǀ! ǴƶǀƘ ƗƮĜƤ!ƒ ƘĜƚƧT!ƒ ĂD ýNjǕƒ ĂD Ɨ!Ăþ!ƒ NJƘĜǀƽLj ýdžơƘƘ LJD ǏǁƵ Ü"LJǄǄLjĜǀĜǄ!ƒ ỹǄdžɳ!

.Ɨnjɳ ýƚ ƨƘĜƵ ǏǁƵ ǀĜǀǁdž!ƒ ƗǄdžĂǀ!ƒĂ ƗǄLjĜƖLjǗƒ ƗǄ!ĂƋƖdž!Ĝǀ ƧĂƶT!ƒ LJƵ ǖƲ5 ÜĜnjLjdž

DžĂùǁƶ!ƒ ýĜùɳdž ǑùƼ LJĜùǀĜǄ!ƒ ǏǁƵ ǂþɳ Džþǀƙdž ƔƧʒ!ƒ LJD þǄƶǀ LJdžƨ ǨLjdžĂ LJĂǄLjĜǀĜǄ!ƒ ǁƧþD þǀ! .6

ƒĂùǀơ!ƒ" ǂƧĜƶùT ǑɳǄĜùdž ǑLjĜùǀĜǄ!ƒ ƧĂƱƒƧǀdžǗƒ ỹƽƧ ǁ!Ǩ!Ă ÜǀƧĂƱƙdž!ƒ ĜǄɳĂ!ĂLjƚƙ!ƒĂ ƗǄƧƮƶ!ƒ

ƗùǀpĜƶƙdž!ƒ ƗǄLjĜǀĜǄ!ƒ ƘĜdžĂƗơ!ƒ ƘǁƖƧD þǀƼ ÜƧĜƶT!ƒ ƒǨNj ǨǄƽLjƙ LJƖơ LJĜdžư!Ă Ü"ljƨĂĜɳƙĂ ƔƧʒ!Ĝǀ

ƻǕƈ ƘdžþǀƙùƖƒĂ ǀƧĂƱƙdž!ƒ ÜƗǄƚǄƧdžǕƒĂ ƗǄǀĂƧĂǕƒ ýĂþ!ƒ ƻǁƙƤdž Ǐ!ƍ ƗǄdžǁƶ!ƒ ƘĜǀƶǀ!ƒ ƘƒƧTƵ

ÜLJǄǄLjĜùǀĜǄ!ƒ ƇƒƧƨĂ!ƒ ƔƘƒĂƧ ǴLjĜǄơD ƨĂƽƙ ǂþɳ ƗǄ!ĜƵ ƔƘƒĂƧ Džnj! ƘƶƼþĂ ÜýĂþ!ƒ ǁǁƙ LJdž ƘƒƧǀƤ!ƒ

LJǄƚƧĜƘ DžNjþǁǀ Ǐ!ƍ ƒĂþĜƵ ÜǀþþơdžƗǄLjdžƨĂ ƘƒƧƙƽ!Ă ÜƻƛƚdžýƚTǀ LJĜǀĜǄ!ƒ DžnjLjdž ƘþĜƽƙƖƒ LJD þƶǀĂ

ljþùǄ!ĜǀƙĂ ǑLjĜùǀĜǄ!ƒ ỹùdžƙɳdž!ƒ ƗùƶǄǀƱ ỹdž DžĈǖƙǄ Ĝdžǀ ÜýĜdžƵǕƒ ýĜdžƚƍ Ɨdžnjdž LJǄǄLjĜǀĜǄ!ƒ ƇƒƧǀƤǁ!

.ƗƛĂƧĂdž!ƒ

ĜùǄɳĂ!ĂLjƚƙ!ƒ LJǄƱĂùƙĂ ƗǄƧƮƶ!ƒ DžĂǁƶ!ƒ ýǀLj ƨǄƧƱ LJƵ Ǐ!ĂǕƒ ǀĂƱƤ!ƒ LJĂǄLjĜǀĜǄ!ƒ ƨɳLjD LJD þƶǀ .7

ƔùǄƧʒƙ!ƒ ǀƧƒƒþ ǑƼ ƱĂǀƖ!ƒ ƧƱĜƤdž LJdž ƗǄLjĜǀĜǄ!ƒ ƗǄþơƙ!ƒ ƗǀƧɳƙ LJǄƮơƙ Ǐ!ƍ ƒĂƵƧĜƖ ÜƗǄǀƧʒ!ƒ

ƟĂƧù!ƒ ĜùdžD ƗǄǀƧƸ ĜǄɳĂ!ĂLjƚƙ!ƒ" :ƧǄnjT!ƒ ljƧĜƶT ǑɳǄĜdž ƧĂƱƒƧǀdžǗƒ ƨǁƱƋƼ ÜƔƧʒǁ! ƗǄƶǀƙ!ƒ ĂD

ǏùǁƵ ǀƧùǄƛƚ!ƒ ĜNjƧĜưdžĂ ƔƧʒ!ƒ LJdž ĜǄɳĂ!ĂLjƚƙ!ƒ ýǀLj ƘĜǄǀǁƖ ǑƼǖƙ! NJLjdž Ɨ!ĂĜơdž ǑƼ "ƗǄLjĜǀĜǄƼ

.Džnjƶdžƙɳdž ƘĜǄƮĂƮƤ ƨƧǀD LJdž ĜnjLjĂƧǀƙƶǄĂ LJĂǄLjĜǀĜǄ!ƒ Ĝnjǀ ƧƤƙƼǄ Ǒƙ!ƒ ƗƛĂƧĂdž!ƒ þǄ!Ĝǀƙ!ƒ

LJƧùǀ!ƒ ǑƼ Ǐ!ĂǕƒ ƗǄLjĜǀĜǄ!ƒ ƗƲnjLj!ƒ ƗǄƒþǀ ǨLjdž ǀƧdžƙƖdž Ƙ!ƒƨ Ĝdž ƗǄǁdžƵ ƗǄƧƱLj LJdž LJĜǀĜǄ!ƒ ƨǁƱLjƙ .8

ƗǄƧƮùƶ!ƒ DžĂǁƶ!Ĝùǀ þĂƨùdž!ƒ ǏƧTùǀ!ƒ ýĜùdž!ƒ ΣǁƧ LJD ăƧƙ ǑƙǁƒƗǄƧƱLj!ƒ ljǨNj ÜƧTƵ ỹƖĜƙ!ƒ

ƻùǀƛdž!ƒ Ƨơ!ƒ LJĜƖLjǗĜƼ ÜƗdžƒþƙƖdž ƗǄdžLjƙ Ɨƒþơƍ ǏǁƵ ƧþĜǀ!ƒ þǄơĂ!ƒ ĂNj ÜǀƧĂƱƙdž!ƒ ĜǄɳĂ!ĂLjƚƙ!ƒĂ

9. ... 2000 ... (% 95.35) ...

... (% 49.1) ...

... (9) ...

... (%98.9) ...

ƘǴďžþùƤǁ ļþǍƨďž ƩƧƒþďž!ƒ ǁǁǩ ǇĴďž (% 48.7) ǇĵǍ ÜŦƪƧþďž ý‡! ƪƨǴǌȷ (15.7) ýþƶďžǁ Ǒ!Ǚƒ

ƪƨǴǌȷ (36.8) ýþƶďžǁ ÜǑ!Ǚƒ ƔƪǴơ!ƒ ƖƨǌȠǁ ļþǍƨďž ŦǒþƒþƵǗƒ ƩƧƒþďž!ƒ ƴǒďžȠ ǇĵǍ ÜƘǇƧƘǇǙƒ

ƴùǒďžȠ ǇĎǍ ƘùǇƧƘǇǙƒ ƘǴďžþùƤǁ ļþǍƨďž ƩƧƒþďž!ƒ ǁǁǩ ǇĴďž (% 67.8) ǇĎ Ǵďž‡, ŦƪƧþďž ý‡!

ǇĵǍ ÜŦùƪƧþďž ýù‡! ƪƨǴǌȷ (% 81.9) ýþƶďžǁ Ǒ!Ǚƒ ƔƪǴơ!ƒ ƖƨǌȠǁ ļþǍƨďž ŦǒǍǇǴǍ!ƒ ƩƧƒþďž!ƒ

Ǵùǌǒ5 ƘďžƵ þǀ5 ŦǒǇǴǁǴǒ!ƒ ƘǴƶďžǴȠ!ƒ ǴďžĎ .ƘǇƧƘǇǙƒ ƘǴďžþƤǁ ļþǍƨďž ƩƧƒþďž!ƒ ǁǁǩ ǇĴďž (% 80.1)

ǇĴùďž ǋƵƒǍǇĎ ƻǁǩƤďžǁ Ǒ!Ǚƒ ƔƪǴơ!ƒ ƠǁƮĎǍ ÜƘƒǍǇƪ ƧƬƵ ǇĴďž ƧƛǂĎ ƦǇďž Ǒ!Ǚƒ ƔƪǴơ!ƒ ƘǴďžþƤ

.Ǒďžǁƶ!ƒ ƚơǁ!ƒǍ ŦƪƒƧþ!ƒ ƘƒǍþĎ

10. ýǘƤ ƘƒǍǇƪ ƖƨȠƶďž!ƒ ŦǒþǴƮǩþǙƒ Ǒǩ!ƒ ǴǌǩǀǀơǍ ǇǴǁǴǒ!ƒ ƗǩơǍ ÜǇǏǙƒ ƘƧďžǩƪƒ ǇǴǁǴǒ!ƒ ƧǒǍùƱǩǁ

ƧǒǍùƱǩ!ƒǍ Ǒďžǁƶ!ƒ ƚơǁ!ƒ ƯƒƧƺǕ ǑďžǍǀ!ƒ ýƤþ!ƒ ǇĴďž (% 3) Ǒ!ƒǍơ ƻǒƲǍǩǍ ǴǌƛǴơǁĎ ƨ‡ƒƧďž

ǑďžǍùǀ!ƒ ǊǩǴùǇ!ƒ ƳǍùďžȠďž ǇĴďž (% 0.2) ǇĴďž ýþĎ ǇǍƺƲǍǒ ƔƧƶ!ƒ ǇĴ5 ÜýǁǴǀďž!ǴǁǍ ǑȠǍ!ǍǇ‡ǩ!ƒ

ŦùǒǇǁǕƒ ŦǇǴǒùƮǍ ŦùǒƧƒþǗƒ ýǴùďžƵǕ! ǴùǌďžƲƶďž ÜƧǍƱǩďž!ƒ Ǒďžǁƶ!ƒ ƚơǁ!ƒ ƯƒƧƺǕ ǑǁƧƶ!ƒ

ǇĎ ÜǴùǇǋ ǋǒ!ǫ ƖƧǴƬǗƒ ƧþȠǩ ǴďžǴďžǍ ÜƖƧǍƱǩďž!ƒ ǴǒȠǍ!ǍǇ‡ǩ!ƒ ǇǒƱǍǩ ǏǁƵ ƖƧþǴþ ǑǋǍ ÜƘƒƨǒǌȠǩ!ƒǍ

Ǒùďžǁƶ!ƒ ŦùơǁǍ!ƒ ƘǴùǀƽǇ ǇĴùďž % 80 ŦǁƪǇǁ ǄǋǴƪǩ ǇǴǁǴǒ!ƒ Ǒ5 ŦƮǴƤ!ƒ ƘǴ‡ƧƬ!ƒǍ ƘǴƪƪƋďž!ƒ

(%70) ŦǁƪùǇǁ ǴǒǇǴďž!Ď ǴǌǒǁǩǍ Ǒďž‡ơ!ƒ ǍĎ ǑďžƪƧ!ƒ ƳǴƱǀǁ! þǀ5 (%20) ýǁǴǀďž ǑǇǀǩ!ƒ ƧǒǍƱǩ!ƒǍ

Ǒù5 ƒ ǴùƤ!ƒǍ ǇǒƵǴùƱǀ!ƒ ǇǒǁŦǁƪǇ!ƒ ýþǴƶǩǩǍ ÜǇǴƶ!ƒ ƳǴƱǀǁ! (% 30) ýǁǴǀďž ƒ ǴƤ!ƒ ƳǴƱǀǁ!

Ǒù5 ƒ ǴùƤ!ƒ ƳǴƱǀ!ƒ ǇĴ5 ýǁǴǀďž!ǴǁǍ ÜǴďžǌǇǇďž ý‡! (% 50) Ǒ!ƒǍơǁ Ŧǒ‡ǒƧďžǕƒ ļþơǩďž!ƒ ƘǴǒǕǍ!ƒ

ÜǑùǇǀǩ!ƒ ƧǒǍùƱǩ!ƒǍ Ǒďžǁƶ!ƒ ƚơǁ!ƒ ƘǴǀƺǇ ǇĴďž ƱǀƼ (% 10) ǇĴďž ƧƛǂǁǄ ǄǋǴƪǒ Ǖ ŦǒǁƧƶ!ƒ ýǍþ!ƒ

Ɣǁƪùǁ ƧþùǌǇ!ƒ ŦưƧƵ ǋǁƶȠǒ Ǵďžďž (% 90) ŦǁƪǇǁ ǑďžǍ‡ơ!ƒ ƳǴƱǀ!ƒ ǏǁƵ ýǒǍďžǩ!ƒ ǴƔƵ ƴǀǒǍ

.Ŧ!Ǎþ!ƒ ƧƒƒǍþ Ǒ5 ŦǒƱƒƧþǍƧǒǁ!ƒ ƘƒǴƒƧȠǕƒ ƖƧƱǒƪǍ ǐƧƒþǕƒ ýǋƧǩ!ƒ

[illegible]

[illegible] (Hall, 2000) [illegible]

[illegible]

[illegible] (2001) [illegible]

[illegible] (2008) [illegible] 138 [illegible] (169) [illegible] (7) [illegible] 40 [illegible]

[illegible]

[illegible]

[illegible] (2008) [illegible]

[illegible]

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[illegible] (2009) [illegible]

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[illegible]

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(2009)

(144) (14) (158)

(80)

[illegible]

[illegible] (Hawkins, 2002) [illegible]

[illegible] Leithwoods. [illegible]

(Sottile, 2002)

(2003)

ŀùŏdžŏƲǀǁķ!ƒ ŀù5ĜǀƛƖ!ƒ ƔĜŏƩ Ŀ!Ĝơ Ŏ5 ĭƧƒþŰƒ ƧŏĂƱķ!ƒ ŀŏǀĜŀdžǫ ǇǫĂ ĭƧƒþŰƒ ƧŏĂƱķ!ƒĂ ŀŏdžŏƲǀǁķ!ƒ ŀ5ĜǀƛƖ!ƒ

.ŀǀǂdždž ƧŏƩ ǇĂǂķ

ƘĜùƶdžĜƞ!ƒ Ŏù5 ǁþƑĜƖù!ƒ ŀŏdžŏƲǀǁķ!ƒ ŀ5ĜǀƛƖ!ƒ ƴþƒĂ : ǇƒĂǀƶƾ ŀƖƒƧþƾ (2006) ǇǁǖƐ ǭĜƳ DžĜpĂ

ƻƧƶķ!ƒ Ŏ!ǫ ŀƖƒƧþ!ƒ Ƙ5þǋ .ƘĜƶdžĜƞǁ! ŎdžŏƲǀǁķ!ƒ ƧŏĂƱķ!ƒ ăĂķƖdž ŎǁƵ ĜǋƧƛDŽĂ ǀƨƩ ƳĜƱǀƾ ŀŏǀŏƱƖǁ5!ƒ

ƻƧùƶķ!ƒ Ĭ!ǫ Ƙ5þǋĂ ÜĬ ƬpŰƒ ÜƧǋƨŰƒ ÜŀŏdžűƖŰƒ ƘĜƶdžĜƞ!ƒ Ŏ5 ǁþƑĜƖ!ƒ ŀŏdžŏƲǀǁķ!ƒ ŀ5ĜǀƛƖ!ƒ ƳĂǀ ŎǁƵ

ŀù5ĜǀƛƖ!ƒ ǇŏùƾŀùpűƶƖ!ƒ ŀƖƒƧþ Ŏ!ǫ Ƙ5þǋ Ĝdžǂ Ü ŀ űƛ!ƒ ƘĜƶdžĜƞ!ƒ Ŏ5 ŎdžŏƲǀǁķ!ƒ ƧŏĂƱķ!ƒ ăĂķƖdž ŎǁƵ

ǁƒþƌǂ ŀǀĜƾķƖŰƒ ŀơĜƾ!ƒ DžþƤķƖƒĂ .ŎdžŏƲǀǁķ!ƒ ƧŏĂƱķ!ƒ ăĂķƖdžĂ ŀűƛ!ƒ ƘĜƶdžĜƞ!ƒ Ŏ5 ǁþƑĜƖ!ƒ ŀŏdžŏƲǀǁķ!ƒ

ƇĜƢùƵDŽĂ ǇŏŏdžŏþĜǂŰƒĂ ǇŏŏƧƒþŰƒ Ǉdž ĜǆƲĂdž ďĐČ Ǉdž ŀǀĂǂdž ŀŏƑƒĂƬƵ ŀǀŏƵ ŎǁƵ ƘǀƾƱĂ ÜŀƖƒƧþǁ!

ǊƑĜķǀ!ƒ Ŏ!ǫ ŀƖƒƧþ!ƒ ƘǁƬĂķĂ.Ŏ5ƬĂ!ƒ ǋǀdž!ƒ ŀơĜƾ!ƒ DžþƤķƖƒĂ.ŀǀƾĜƖ!ƒ ƘĜƶdžĜƞ!ƒ Ŏ5 ŀƶdžĜƞ!ƒ ƩǁƞdžŀùƶĜǀƛ ĜùdžǀŏƾƨĜùƞǀŰƒ ŀ5ĜǀƛĬ!ǫ ƴŏdžķ ŀŏdžűƖŰƒ ŀƶdžĜƞ!ƒ Ŏ5 ǁþƑĜƖ!ƒ ŀŏdžŏƲǀǁķ!ƒ ŀ5ĜǀƛƖ!ƒ ǇD * :ŀŏķŬƒ

.ŀƶdžĜƞ!ƒ ŀ5Ĝǀƛ ǇĂǁǂTŏ Ĝǁƶ!ƒ ǀƧƒþŰƒ ǇD * .ƧƒĂþŰƒĂ DžƲǀ!ƒ ŀ5Ĝǀƛ Ĭ!ǫ ƴŏdžķ ĬƬpŰƒĂ ƧǋƨŰƒ ŎķƶdžĜƞ

ĬƬpŰƒ Ŏ5Ă ƴ5ķƧdž ƧǋƨŰƒ Ŏ5Ă ƒþƞ ƴ5ķƧdž ŀŏdžűƖŰƒ ŀƶdžĜƞ!ƒ Ŏ5 ŎdžŏƲǀǁķ!ƒ ƧŏĂƱķ!ƒ ăĂķƖdž ǇD *

.ŎdžŏƲǀǁķ!ƒ ƧŏĂƱķ!ƒ ƘŬĜƞdžĂ ŀŏdžŏƲǀǁķ!ƒ ŀ5ĜǀƛƖ!ƒ ǇŏƾŀŏƑĜƬơǫ Ŀ!ƒþ ŀpűƵ þĂƞĂ * .ƱƖĂķdž

ŀù5ĜǀƛǁǀƛǁĬǁ! ŀŏùƖĜƖŰƒ ƧĂĜơdž!ƒ ĬǁƵ ƻƧƶķ!ƒ Ĭ!ǫ Ƙ5þǋ ŀƖƒƧþ (**2006**) ăþƑ5 ƘƧƞDŽĂ

DžƒƨùķŬƒĂ ÜŀơƢƒĂ!ƒ ŀŏdžŏƲǀǁķ!ƒ ŀŏƌƧ!ƒĂ ÜƴdžƶƖƒ ƘĜŏĂ!ĂD ƔŏķƧķ Ŏ5 þƧ5!ƒ ŀƾƩƧ Ŏ5 ŀǁƛdžķdžƶ!ƒ ŀŏdžŏƲǀǁķ!ƒ

.ŀùdžĜƶ!ƒ ƘĜùdžƲǀdžƶ!ƒ Ŏ5 ƇƒþŰƒ ǁƇĜ5ǂĂ ăĂķƖdžƾ ĜǋǀķpűƵĂ ŀŏdžŏƲǀǁķ!ƒ Ŀ!ƒþƶ!Ĝƾ þƧ5!ƒ ƩĜƖơǫĂ ŎdžŏƲǀǁķ!ƒ

Ŏù5 ƇƒþŰƒ ƻƶƢ ƢƶƾŀƞĜƶdž Ŏ5 DžǋƖķ ƘĜŏƬĂķ ƴƢĂ Ŏ5 þŏ5ķ ǊƑĜķǀ Ĭ!ǫ ƴĂƬĂ!ƒ ƢƧƷƾ ǁ!ƦĂ

Ǉdž ŀŏƬƬơ ŀǀŏƵ ƧĜŏƤƒ DžķĂ ÜŀƖƒƧþ!ƒ ǀƦǋ! ƴdžķƞdžǂ ƘĜdžƲǀdž ƴƞƧD ƧĜŏƤƒ Džķ þpĂ .ŀdžĜƶ!ƒ ƘĜdžƲǀdž!ƒ

[illegible] (307) [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible].

[illegible] (**2009** [illegible])

[illegible]

[illegible]

.(306) [illegible] (98) [illegible]

[illegible]

[illegible]

[illegible].

[illegible]

[illegible]

[illegible]

[illegible].

ÜƗùƶďžǴɳ!ƒ ÜƗǒǐďžƶ!ƒ lƧǹƤ!ƒ ƘƒĂǉʅ) ǴnjƙƒƧǒʓƙďž Ɣʅơ ƗǒƑǴnjǉ!ƒ Ɨʅƒƨƥ!ƒ ƗǉǒƵ ƥƒƧ5Ɗ ƴǒƨĂƙ LJǒǹǒ (1) ƊžpƧ

.(Ɨǒǐǂ!ƒ

(1) üNjǫɯ

ǹƨƐƥǫǁƐ lƐƥǏƔƗƊž ƒ ƨΘ ǹƨƐƥǫǁƐ ǹďžǐɣ ǹǐNjəƊžǁƐ ƒ ƨďžǁƐNj lƐƥƐƥlƗǁƐ

ǹǐNjəƊžǁƐ ǹǴƨďžǁƐ	ƥƐƥlƗǁƐ	njNjƗƨƊžǁƐ	ƥǐƔƗƊžǁƐ
% 09.00	16	ƘƒĂǉʅ 10 LJďž ýpƊ	Ɨǒǐďžƶ!ƒ lƧǹƤ!ƒ ƘƒĂǉʅ
%91.00	148	ƘƒĂǉʅ 10 LJďž Ƨƛǂ Ɗ	
%100	164	ƳĂďžɳďž!ƒ	
%33.00	54	ǁ ĂďžƧǒ!ƒ	Ɨƶďž Ǵɳ!ƒ
%38.00	62	ƗǒǉƥƧŰƒ ǴǒɳĂ!Ăǉǂƙ!ƒĂ ƊžĂǐƶ!ƒ	
%29.00	48	Ƙǒǹ!ƒ ýƈ	
%100	164	ƳĂďžɳďž!ƒ	
%62.00	102	ƗǒďžǐƵ	Ɨǒǐǂ!ƒ
%38.00	62	ƗǒǉǴʅǉǫ	
%100	164		ƱNjƊžɯƊžǁƐ

:ǹƨƐƥǫǁƐ ƔƐǫƈ

Ĭùǐ Ƶ ƻĂùpĂǐ! "ƗǉǴǹƙʅŰƒ"Ɨʅƒƨƥǐ! lƒƥƊ ǴǴǉǹĂ ƧǒĂƱƙǹ ƚơǴǹ!ƒ ƊžǴp Ɨʅƒƨƥ!ƒ ǉƦNj ƻƒƥNjƊ ʂǒlơƙ!

Ĭùǐ Ƶ ƻĂùpĂ!ƒĂ ÜƗǒďžĂǂơ!ƒ ƗǒǉƥƧŰƒ ƘǴƶďžǴɳ!ƒ Ǒ5 ƗǒǂƧǴƬƙ!ƒ lƧƒƥŭ! LJǒǒďžǒƥǴǂǕƒ lƥǴl!ƒ ʂǒǹƱƙ ăƥďž

,ƗǒďžǒƱǉƙ!ƒ Ɨ5ǴlƛƧ!ƒ ƨǒƨƶƙ Ǒ5 ƗǒǂƧǴƬƙ!ƒ lƧƒƥŰƒ ʂǒǹƱƙ ƧĂƥ

lƥǴùl!ƒ ýĂùơ ƗǒʅǴʅ Ɗ ƘǴďžĂǐƶďž LJďž ưƙǒ üNjǓƐ !ƨʂǁƐ :ƊžǴʅpƊ Ɨƛŭƛ LJďž ƗǉǴǹƙʅŰƒ ǉƦNj LJĂǂƙƙĂ

ýùǹp LJùďž Ɨǒǂ ƧǴƬƙ!ƒ lƧƒƥŰƒ ʂǒǹƱƙ ăƥďž Ĭǐ Ƶ ƻƧƶƙǐ! ƘƒƧl5 LJďž ưƙǒ Ĭďž ƑƙǁƐ !ƨʂǁƐNj ÜLJǒǒďžǒƥǴǂǕƒ

ƧĂƥ Ĭǐ Ƶ ƻƧƶƙǐ! ƘƒƧl5 LJďž ưƙǒ ƘǁƑƙǁƐ !ƨʂǁƐNj .ƗǒďžĂǂơ!ƒ ƗǒǉƥƧŰƒ ƘǴƶďžǴɳ!ƒ Ǒ5 LJǒǒďžǒƥǴǂǕƒ lƥǴl!ƒ

[illegible]

[illegible]

[illegible]

(2) [illegible]

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]
8	[illegible]	1
8	[illegible]	2
9	[illegible]	3
7	[illegible]	4
10	[illegible]	5
42	[illegible]	

[illegible]

[illegible] (2006 [illegible]) (2006 [illegible]) (2003 [illegible]) (2008 [illegible]) [illegible] (2002 [illegible]) [illegible] (34) [illegible] (3) [illegible] (3) [illegible] (25) [illegible]

(**3**) üŊǫƜ

lƑyĎžƑƜllɛ Ĭʓ hŭĎžĭưůĦllɛ hʓƑʂƙllɛ ŖĭŖyĦ Ĭʓ hŭlƥƑʅĦllɛ ƴƥɛǫŪɛ ƼĭĈƱĦ ƥŊǫĈ hʂǂyĦĎžllɛ ƑŊĦɛƥʂʓ ǫǫƳŊ hǔƑĈĦƨŰɛ lŰƑƜĎž
hŭĎžŊlƟllɛ hŭǁǫƥŬɛ

lɛƥʂƧllɛ ǫǫƳ	üƑƜĎžllɛ	!ʒƥllɛ
8	ĦǒǆǒƱǉƙ!ƒ ƘƒƥlƙƶǆǆƒĂ ǅǒl!ƒ ýĈƞǆ	1
9	ĦǒǆǒƱǉƙ!ƒ ƘĈƶpĂƙ!ƒ ýĈƞǆ	2
8	ĦƶƕƙǆǆƒƘĈʅĈǒʅ!ƒĂ ǇǒǉƒĂl!ƒĂ ĦǆƱǉŰƒ ýĈƞǆ	3
25	ƷŊƥžƜĎžllɛ	

:hƨɛƥǫllɛ ƴɛǫĉ ʐ ƬŊ

:Ħǒ!Ĉƙ!ƒ ĈƒƨƞŰƒ ĦʅƒƧƥ!ƒ lƒƥƊ ƘǉǆưƘ

- ƘĈǉĈǒƕ!ƒ ĦǒƬƤƬ!ƒĂ ĦǒʒǒƱĂ!ƒĂ ǇƵ ƥƒƧƊ ĦǉǒƵ ĦʅƒƧƥ!ƒ ĦƛǆǆƙǆǆǆƵ ƘƒƧǒʓƙǆ ŎƵ ĦʅƒƧƥ!ƒ ĂŊùŎ:

Ħùƶǆǆƞ) :høyĎžƑƜllɛŊ Ü(ƘƒĂǉʅ 10 Ǉǆ ƧƛǂƊ ÜƘƒĂǉʅ 10 Ǉǆ ýpƊ) :hŭǂĎžyllɛ ƴƥĈǫllɛ lɛŊǆƨ

.(ĦǒǉĈʅǉƒ ,ĦǒǆƵ) :hŭǂllɛŊ Ü(ƘǒƕƕƒýĉĦƶǆĈƞ ÜĦǒǉƥƧŰƒ ĈǒƞĂ!Ăǉǂƙ!ƒĂ ǅĂƶ!ƒ Ħƶǆƞ ÜllĂǆƧǒ!ƒ

- Ħùǒǉƥ ƧŰƒ ƘĈùƶǆĈƞ!ƒ ŎƵ ǇǒǆǆǒƥĈǂŰƒ lƥĈl!ƒ ýƕp Ǉǆ ĦǒǂƧĈƬƙ!ƒ lƧƒƥŰƒ ƽǒƕƷƙ ăƥǆ ƩĈǒl! lƒƥƊ

ƘƒƧùlƼ ĦƹĈǒùƬ ǅùƙ ƥpĂ ÜlƧlƼ (42) yƥƒĂƕĂ ÜƘŰĈƞǆ (5) lƒƥŰƒ Ƙǉǆưƙ ƥpĂ ,ĦǒǆĂǂơ!ƒ

ÜƘĈƞƧƥ (5) ƒƥƞ Ħǒ!ĈƵ : Ŏ!Ĉƙ!ƒ ĂơǉǉƒĬƵĂ ƜƧƥƙǆ!ƒ ŎʅĈǆƤ!ƒ ƘƧǂǒ! ǅʅ ýǂƬ ĬƵ lƒƥŰƒ

Ħùƞ Ƨƥ (1) ƒƥùƞ Ħùǒǉƥƙǆ ÜǇĈùƙƞƧƥ (2) Ħǒǉƥƙǆ ÜƘĈƞƧƥ (3) ĦƷʅĂƙǆ ÜƘĈƞƧƥ (4)Ħǒ!ĈƵ

lƧƒƥŰƒ ĦùʅƧĈǆǆ ĦƞƧƥ Ʃǂƶǒ ĭŖ!ƒ ýǒƥƕ!ƒ ƧĈǒƙƤƒ ĦʅƒƧƥ!ƒ ĦǉǒƵ ƥƒƧƊ Ǉǆ ƔƷ ĦǒơÜlƥơƒĂ

ĦǉǒƵ Ǉǆ ǇǒƕǒƞƙʅǆǆƒĦlƼƒĂǆ ăĂƙʅǆ ýƛǆǒ ĭŖ!ƒ ǇĈǂǆ!ƒ ŎƵ (Ã) lƧĈƬǫ ƴưĂƕ ll!ŖĂ ĦǒǂƧĈƬƙ!ƒ

.ĦʅƒƧƥ!ƒ

(25) (3)

(2) (3) (4) (5)

(1)

(Ã)

(16) (Content validity)

(%81)

(8)

(42) Ǉùdž ǇĂǂķķ ǂŏƑǴǌǉ!ƒ ǴǌķƧĂƮǈ ǂŏǂƧǴƬķ!ƒ ǉƧƒþŰƒ ƾŏǈƱķ ăþdž ƩǴŏp ǉƒþǷ ƘơǈƮǷ Ǳ!ƦǈĂ ÜƘƒƧǀ5

ƇĂù ư Ŏù5Ă ÜǂùŏǉǴƛ!ƒ ǉƒþŰƒ Ǵùdžǂ .(2) Ǆùpƨ ýĂþƞ Ŏ5 Ơ ư Ădž ĂǋǴdžǂĂ Üǂʅdžƥ!ƒ ǴǌķŬǴƞdžǈ ǉƧǀ5

ƘơǈƮǷ Ǳ!ƦǈĂ ÜƘŬǴƞdž (3) ǂƒþơķʅƒĂ ƘƒƧǀ5 (9) ƻƦơ Ǆķ þǀ5 ÜǇŏdžǂơdž!ƒ Ǉdž ǉþƧƒĂ!ƒ ƘǴƲơǖdž!ƒ

ƘǴùƺdžǴƞ!ƒ Ŏ5 ǂŏƧƒþŰƒ ƘƒþơĂ!ƒ ýƥƒþ ǂŏdžŏƲǉķ!ƒ ǂ5Ǵǀƛ!ƒ ƨŏƨƺķ Ŏ5 ǂŏǂƧǴƬķ!ƒ ǉƧƒþŰƒ ƧĂþ ƩǴŏp ǉƒþǷ

ýĂþƞ Ŏ5 Ơ ư Ădž ĂǋǴdžǂ ÜǉƧǀ5 (25)Ă ƘŬǴƞdž (3) Ǉdž ǂŏƑǴǌǉ!ƒ ǴǌķƧĂƮǈ ǇĂǂķķ ǂŏdžĂǂơ!ƒ ǂŏǉþƧŰƒ

.(3) Ǆpƨ

:ǈƨƐþǬǁƐ ƔƐǫǭ ǉƑǴķ

ƧǴùǈķƥŰƒ ǉþǴùƺǫĂ ƧǴùǈķƥŰƒ ǂùǀŏƧƱ Ǆƒþƥķùʅǈ ǂơǈ!ƒ Ǆǵp ǂʅƒƧþ!ƒ ǉƒþǷ ƘǴǈƛ Ǉdž þǂǡǀ!

(20) Ǆǋþþùƺ ƸǈĂ ǏƦ!ƒĂ ǂʅƒƧþ!ƒ ǂǉŏƺ Ǉdž ǂƺĂdžƞdž ǏǈƵ ǂʅƒƧþ!ƒ ǉƒþǷ ýŏƨĂķ Ǆķ Ʀǫ (Test-retest)

ÜǏù!ĂŰƒ ǉƧdžǈ! Ǆǌŏǉƺ ǂʅƒƧþ!ƒ ǉƒþǷ ƾŏǈƱķ Ǆķ þpĂ Üǂŏʅŏƒƨ!ƒ ǂʅƒƧþ!ƒ ǂǉŏƺ Ǉdž ǄǋþǴƺǈķʅǫ Ǆķ þpĂ ǻþƨ5

ýùdžǴƺdž ƔǴʅùơ Ǆùķ Ǳù!Ʀ þƺǈĂ ÜăƧƤǷ ǉƧdž Ǵǌʅƾǉ ǂǉŏƺ!ƒ ǏǈƵ ǴǌǀŏǈƱķ Ǆķ ǴdžĂŏ (21) Ŏ ư dž þƺǈĂ

ƾŏǈƱķ ăþdž ǉþŰ ƘǴǈƛ!ƒ ýdžǴƺdž ƸǈĂ þpĂ Ü(ǇĂʅƧŏǈ) ƱǴǈķƧŰƒ ýdžǴƺdž Ǆƒþƥķʅǵǈ ǂʅƒƧþ!ƒ ǉþŰ ƱǴǈķƧŰƒ

ǂù5Ǵǀƛ!ƒ ƨùŏƨƺķ Ŏù5 ǂŏǂƧǴƬķ!ƒ ǉƧƒþŰƒ ƧĂþ ǉþŰ ƘǴǈƛ!ƒ ýdžǴƺdž Ǵdžǂ Ü(0.85) ýǂǂ ǂŏǂƧǴƬķ!ƒ ǉƧƒþŰƒ

ǂùǀŏƧƱ Ǆƒþƥķùʅǈ ǂùʅƒƧþ!ƒ ǉþŰ ƘǴùǈƛ!ƒ ýdžǴƺdž ƔǴʅơ Ǆķ Ǵdžǂ Ü(0.92) ƘƷǈ þǀ5 ýǂǂ ǂŏdžŏƲǉķ!ƒ

Ǆŏùp ǇǴơù ư Ăŏ (4،5) ǄǴùpƨŰƒ ƘƒĂƦ ǇŬĂþùƞ!ƒĂ .(Ǵ5!ǅ ǬǴǈǉĂƧǂ) ƘƒƧǀ5!ƒ Ǉŏǈ ŎǈƥƒþǷ!ƒ ƾǴʅķŰƒ

ýùǂ!Ă (ŎǈƥƒþǷ!ƒ ƾǴʅķŰƒ)Ă (ƧǴǈķƥŰƒ ǉþǴƺǫĂ ƧǴǈķƥŰƒ) ǂǀŏƧƱǈ ǂʅƒƧþ!ƒ ǉƒþǷ ƘŬǴƞdž! ƘǴǈƛ!ƒ ƘǖdžǴƺdž

.ýǂǂ ǉƒþŰƒĂ ǂʅƒƧþ!ƒ ǉƒþǷ ƘŬǴƞdž Ǉdž ýǴƞdž

(4) [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.67	0.87	8	[illegible]	1
0.83	0.76	8	[illegible]	2
0.70	0.67	9	[illegible]	3
0.63	0.86	7	[illegible]	4
0.72	0.81	10	[illegible]	5
0.86	0.85		[illegible]	

(5) [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.56	0.87	8	[illegible]	1
0.74	0.91	9	[illegible]	2
0.65	0.93	8	[illegible]	3
0.85	0.92		[illegible]	

(20)

(Test – re test)

(198)

(8) (172)

ǑƑƓƮùơǗƒ ýùǒǁơǩǁ! ƘzưƤ Ǒǩ!ƒ ƘǴǇǅǩƮǗƒ ƥƥƵ ǇǍǂǒ ǁ!ƦǜǍ ÜǑƑƓƮơǗƒ ýǒǁơǩǁ! ǅǌǩǒơǚƮ

ǴƒƧùŋǗ Ƚ!ǍǜǀǆǍ ǂǜƮǇ ǑǋǍ Ü(%0.83) ǂzŋƧǩƮǆǍ!ƒ ƘǴǇǅǩƮǗƒ ǂǜƮǇ ǇǍǂǩ ƒƦǌǜǍ ÜǂǇǅǩƮƍ (164)

.ǋƑǴǩǇ!ƒ ǖƒƧƤǩƮƒǍ ǂǜƮǴǇǆǍ!ƒ ǂǒƑƓƮơǗƒ Ƙǚǒǁơǩ!ƒ

.ǂƮƒƧƥ!ƒ ǂǁƑƮǊ ǇƵ ǂǜǴŋǘ! ǂǜƮǴǇǆǍ!ƒ ǂǒƑƓƮơǗƒ Ƙǚǒǁơǩ!ƒ ǅƒƥƤǩƮƒǍ ǺǒǜǍƮǴơ ƘǴǇǴǜ!ƒ ýǴƤƥƒ ǅǩ -

ǂùƮƒƧƥ!ƒ ǂǁƑƮǊ ǇƵ ǂǜǴŋǘ! ǂǜƮǴǇǆǍ!ƒ ǂǒƑƓƮơǗƒ Ƙǚǒǁơǩ!ƒ ǅƒƥƤǩƮƒ ǅǩǍ ǂǒƵǍǇ!ƒ ƘǴǇǴǜ!ƒ ƸǒƧƽǩ ǅǩ -

.ǂƥǚz!ƒ ƘƒƦ

:ǜƨƐƥǬǁƐ ƖƐƥƟƸǂǄ

:ǜǂƾǂƨǄǁƐ ƖƐƥƟƸǂǄǁƐ :ƬǗǋǊ

.(ƘƒǍǇƮ 10 ǇǆǍ ƧƛǂǊ ÜƘƒǍǇƮ 10 ǇǆǍ ýƥǊ) :ǇǴǩƑ5 ǅǌ!Ǎ : ǂǒǁǆǎz!ƒ ƖƧǜƤ!ƒ ƘƒǍǇƮ -1

ǂzǆǴŋǍ ÜǂǒǇƥƧǕƒ ǴǒŋǍ!ǍǇǂǩ!ƒǍ ǅǍǁz!ƒ ǂzǆǴŋǍ Ü ǁ ǍǆǎƧǒ!ƒ ǂzǆǴŋ): ƘǴƑ5 ǂƛǚƛ ǅǌ!Ǎ :ǂzǆǴŋ!ƒ -2

.(Ƙǒǜ!ƒ ýǆ

.(ǂǒǇǴƮǇƒ , ǂǒǆǎǁƵ) :ǇǴǩƑ5 ǅǌ!Ǎ:ǂǒǁǂ!ƒ -3

:ǜƴǴƑǂǁƐ ƖƐƥƟƸǂǄǁƐ :ƒǏǆƑǩ

ǂùǒǇƥƧǕƒ ƘǴùzǆǴŋ!ƒ Ǒù5 ǂǒǂƧǴƮùǩ!ƒ ƖƧƒƥǚ! ǇǒǒǆǎǒƥǴǂǕƒ ƖƥǴǀ!ƒ ƾǒǜƱǩ ǎƥǆ -

.ǂǒǆǍǂơ!ƒ

ƘǴùzǆǴŋ!ƒ Ǒ5 ǂǒǆǒƱǇǩ!ƒ ǂ5ǴǀƛǓƒ ƨǒƨzǩ Ǒ5 ǂǒǂƧǴƮǩ!ƒ ƖƧƒƥǕƒ ƾǒǜƱǩ ƧǍƥ ƧǒƥǀǨ -

.ǂǒǆǍǂơ!ƒ ǂǒǇƥƧǕƒ

[illegible]:

1. [illegible]

2. [illegible]

3. [illegible]

[illegible]

[illegible]	2.33 - 1.00
[illegible]	3.66 - 2.34
[illegible]	5.00 - 3.67

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] :

"[illegible]"

[illegible]

([illegible]) [illegible]

[illegible] (6) [illegible]

(6) [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0.671	4.09	[illegible]	2	1
[illegible]	0.692	3.98	[illegible]	1	2
[illegible]	0.660	3.84	[illegible]	3	3
[illegible]	0.573	3.69	[illegible]	5	4
[illegible]	0.527	2.48	[illegible]	4	5
[illegible]	0.624	3.62	[illegible] / [illegible]		

[illegible] (6) [illegible]

[illegible] (4.09 -2.48) [illegible] ([illegible]

ǑŀĜʅùơ!ƒ ƠʅĂƙdž!ƒ ǇĜǂĂ ÜŁƠʅĂƙdž ŁöǁƵĜ5 ŁɳƧþ ǏǁƵ ýƮơ łǒơ ƩdžĜƤ!ƒ ýĜɳdž!ƒ ƒþƵ Ĝdž ƘǛĜɳdž!ƒ

Ǐù!ĂǕƒ ŁƕƙƧdž!ƒ ǏǁƵ (ŁơĜƙdž!ƒ ŁǒƧƬƕ!ƒ þƧƒĂdž!ƒ ƖƧƒþǫ) ǑǉĜƛ!ƒ ýĜɳdž!ƒ ýƮơ þǀ5 .(3.62) ýǂǂ ýĜɳdž!

ĈĜùɳ Džùƛ ÜŁö!ĜƵ ŁöǁƵĜ5 ŁɳƧþƕĂ (0.671) ǉƧƒþǀdž ĭƧĜöƶdž ƻƒƧơǉƒĂ (4.09) ǉƧƒþǀdž ǑŀĜʅơ ƠʅĂƙdžƕ

ƻƒƧùơǉƒĂ (3.98) ǉƧƒþǀdž ǑŀĜʅơ ƠʅĂƙdžƕ ŁöǉĜƛ!ƒ ŁƕƙƧdž!Ĝƕ (ŁödžöǁƶƘ!ƒ ŁʅʅƋdž!ƒ ƖĈĜ5ǂ) ýĂǕƒ ýĜɳdž!ƒ

ĈƒþǕƒ) łù!Ĝƛ!ƒ ýĜùɳdž!ƒ Łùƛ!Ĝƛ!ƒ ŁùƕƙƧdž!ƒ Ǒ5 ĈĜɳĂ ÜŁö!ĜƵ ŁöǁƵĜ5 ŁɳƧþƕĂ (0.692) ǉƧƒþǀdž ĭƧĜöƶdž

(0.660) ǉƧƒþùǀdž ĭƧĜùöƶdž ƻƒƧùơǉƒĂ (3.84) ǉƧƒþǀdž ǑŀĜʅơ ƠʅĂƙdž ǏǁƵ ýƮơ łǒơ Ü(ĭƧƒþǕƒ

ǑŀĜʅơ ƠʅĂƙdžƕ ŁƶƕƒƧ!ƒ ŁƕƙƧdž!ƒ ǏǁƵ (ýdžƶ!ƒ Ɣö!ĜʅƊ) ƩdžĜƤ!ƒ ýĜɳdž!ƒ ýƮơĂ ÜŁö!ĜƵ ŁöǁƵĜ5 ŁɳƧþƕĂ

ƴùƕƒƧ!ƒ ýĜùɳdž!ƒ ǋùöǁö ÜŁùö!ĜƵ ŁöǁƵĜ5 ŁɳƧþƕĂ (0.573) ǉƧƒþǀdž ĭƧĜöƶdž ƻƒƧơǉƒĂ (3.69) ǉƧƒþǀdž

(2.48) ǉƧƒþùǀdž ǑŀĜʅơ ƠʅĂƙdžƕ ŁʅdžĜƤ!ƒ ŁƕƙƧdž!ƒ ǏǁƵ ýƮơ łǒơ Ü(ǑǁơdžÜ!ƒ ƴdžƙɳdž!ƒ ƴdž ŁǂƒƧƬ!ƒ)

ÜŁƠʅĂƙdž ŁöǁƵĜ5 ŁɳƧþƕĂ (0.527) ǉƧƒþǀdž ĭƧĜöƶdž ƻƒƧơǉƒĂ

ɯƒƧƤƙùʅǫ Džùƙ þùǀ5 ÜǊƙƒƧǀ5ƕ ýĜɳdž ýǂ! ŁöƧĜöƶdž!ƒ ƘĜ5ƒƧơǉǗƒĂ ŁöŀĜʅơ!ƒ ƘĜƠʅĂƙdž!ƒ Ł5Ƨƶdž!Ă

ǇǑƕdž ĂǊ ĜdžǂĂ Üýǂǂ ýĜɳdž!ƒĂ ĜǌĜɳdžƕ ŁƠƕƙƧdž ƖƧǀ5 ýǂ! ŁöƧĜöƶdž!ƒ ƘĜ5ƒƧơǉǗƒĂ ŁöŀĜʅơ!ƒ ƘĜƠʅĂƙdž!ƒ

.(12-7) ǅĜƥƧǕ ƘƒƦ ýĂƒþɳ!ƒ Ǒ5

(7) [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0.84	4.16	[illegible]	1
[illegible]	0.87	4.08	[illegible]	2
[illegible]	0.82	4.03	[illegible]	3
[illegible]	0.97	3.96	[illegible]	4
[illegible]	0.88	3.93	[illegible]	5
[illegible]	0.78	3.91	[illegible]	6
[illegible]	1.03	3.90	[illegible]	7
[illegible]	1.10	3.87	[illegible]	8
[illegible]	0.624	3.98	[illegible]	

[illegible] (7) [illegible] (4.16-3.87) [illegible] (0.84) [illegible] (4.16) [illegible] (0.87) [illegible] (4.08) [illegible] (1.03) [illegible] (3.84) [illegible] (3.81) [illegible] (1.10) [illegible].

[illegible]

[illegible]

(8) [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	1.07	4.36	[illegible]	1
[illegible]	1.03	4.27	[illegible]	2
[illegible]	0.89	4.23	[illegible]	3
[illegible]	1.03	4.20	[illegible]	4
[illegible]	1.17	4.01	[illegible]	5
[illegible]	1.06	3.99	[illegible]	6
[illegible]	1.08	3.92	[illegible]	7
[illegible]	0.94	3.72	[illegible]	8
[illegible]	0.671	4.09	[illegible]	

[illegible] (8) [illegible] (4.36-3.72) [illegible] (4.36) [illegible] (1.07) [illegible] (4.27) [illegible] (1.03) [illegible] (3.92) [illegible] (1.08) [illegible]

[illegible] (3.72) [illegible]

.(0.94)

[illegible]

:[illegible]

(9) [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	0.89	4.30	[illegible]	1
[illegible]	0.91	4.28	[illegible]	2
[illegible]	1.00	4.18	[illegible]	3
[illegible]	0.87	4.01	[illegible]	4
[illegible]	0.92	3.88	[illegible]	5
[illegible]	1.01	3.84	[illegible]	6
[illegible]	0.98	3.59	[illegible]	7
[illegible]	1.12	3.79	[illegible]	8
[illegible]	0.62	2.91	[illegible]	9
[illegible]	0.66	3.84	[illegible]	

[illegible] (9) [illegible] (4.30-2.91) [illegible]

[illegible] (0.89) [illegible] (4.30) [illegible] (4.28) [illegible] .(0.91) [illegible] (3.79) [illegible] (1.12) [illegible] (2.91) [illegible] .(0.62)

[illegible]

[illegible]:

(**10**) [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	1.18	3.06	[illegible]	1
[illegible]	0.87	2.87	[illegible]	2
[illegible]	1.18	2.86	[illegible]	3
[illegible]	1.10	2.46	[illegible]	4
[illegible]	1.18	2.27	[illegible]	5
[illegible]	0.91	2.18	[illegible]	6
[illegible]	0.68	1.91	[illegible]	7
[illegible]	0.52	2.48	[illegible]	

[illegible] (10) [illegible] (3.06 - 1.91) [illegible]

ǑŀĜʅùơ ƱʅĂƙdžŀ Ĭ!ĂŰƒ ŧŀƙƨdž!ƒ ĬǁƵ "ŧƼǁƙƤdž!ƒ ŧƶdžĜƞ!ƒ Ʃ!Ĝƞdž Ǒ5 Ǒǁơdž!ƒ ƴdžƙƞdž!ƒ ƥƒƨ5Ɗ ŧǂƨĜƬdž"

Ǒùǁơdž!ƒ ƴdžƙƞdž!ƒ ƥƒƨ5Ɗ ŧǂƨĜƬdž " ǀƨǀƼ!ƒ Ƙǁ Ƭ ơĂ Ü(1.18) ǉƨƒƥǀdž ǐƨĜŏƶdž ƻƒƨơǉƒĂ (3.06) ǉƨƒƥǀdž

Ʊùʅ Ăƙdžŀ ŧùŏǉĜĂ!ƒ ŧùŀƙƨdž!ƒ ĬǁƵ "DžnjƙĜdžĜdžƙNjƒĂ DžnjƙĜƬ ƬƤƙ Ɣʅơ Ƙƒƨ ư Ĝơdž!ƒĂ ƘƒĂƥǉ!ƒ ĈĜƱƵƍ Ǒ5

ƥƒƨù5Ɗ ŧǂƨĜƬdž " ǀƨǀƼ!ƒ Ƙǁ Ƭơ ǇŏơǑ5 .(0.87) ǉƨƒƥǀdž ǐƨĜŏƶdž ƻƒƨơǉƒĂ (2.87) ǉƨƒƥǀdž ǑŀĜʅơ

ǑŀĜʅùơ ƱʅĂƙdžŀ ǀƨŏƤŰƒ ƴŀp Ĝdž ŧŀƙƨdž!ƒ ĬǁƵ " ŧŏdžŏǁƶƙ!ƒ ŧŏǁdžƶ!ƒ ǇĂƌƬ ŧƬpĜǉdž Ǒ5 Ǒǁơdž!ƒ ƴdžƙƞdž!ƒ

ƴùdžƙƞdž!ƒ ƥƒƨù5Ɗ ŧǂƨĜƬùdž" ǀƨǀƼ!ƒ Ƙǁ Ƭơ Ĝdžǉŏŀ Ü(0.91) ǉƨƒƥǀdž ǐƨĜŏƶdž ƻƒƨơǉƒĂ (2.18) ǉƨƒƥǀdž

(1.91) ǉƨƒƥùǀdž ǑŀĜʅùơ Ʊùʅ Ăƙdžŀ ǀƨŏƤŰƒ ŧŀƙƨdž!ƒ ĬǁƵ " Ʃŏƨƥƙ!ƒ ŧƑŏNj ĈĜ ư ƵƊ ƨĜŏƙƤƒ Ǒ5 Ǒǁơdž!ƒ

.(0.68) ǉƨƒƥǀdž ǐƨĜŏƶdž ƻƒƨơǉƒĂ

Džùƙ ƥùǀ5 ÜNJùƙƒƨǀƼŀ ƩdžĜùƤ!ƒ ƴĜƞdžǁ! ŧŏƨĜŏƶdž!ƒ ƘĜ5ƒƨơǉŰƒĂ ŧŏŀĜʅơ!ƒ ƘĜƱʅĂƙdž!ƒ ŧ5ƨƶdž!Ă

:Ǒǁŏ ĜdžǂĂ Üƴǂǂ ƴĜƞdž!ƒĂ ǀƨǀ5 ƴǂ! ŧŏƨĜŏƶdž!ƒ ƘĜ5ƒƨơǉŰƒĂ ŧŏŀĜʅơ!ƒ ƘĜƱʅĂƙdž!ƒ ǜƒƨƤƙʅƍ

(11) üNjǫǜ

ƨ DžƑǬǁƐ üƑǜDžǁƐ ǀƐƥƪƻǁ ŀǐƥƑǐƴDžǁƐ ǀƑƺƐƥƟdžŰƐNj ŀǐĜƑƨƟǁƐ ǀƑƯƨNjŧDžǁƐ

ƥǐǁƦƑdžǂ ŀĜǂƥDž "üDžƴǁƐ ƒǐǁƑƨƐ"

ŀǜƥǫ ƥǐǫƪǂǁƐ	ƸƐƥƟdžŰƐ ăƥƑǐƴDžǁƐ	ƯƨNjŧDžǁƐ ǏĜƑƨƟǁƐ	ƔƥƪƻǁƐ	!ƼƥǁƐ
ŧŏ!ĜƵ	0.87	4.35	.NŀĜƶŏƙʅƒĂ ƨŏŏƺ!ƒ ƴŀǀƙ ĬǁƵ ǇŏǁdžĜƶ!ƒ ƴŏƞƬƙ	1
ŧŏ!ĜƵ	1.10	4.15	ƱĂƺ ư !ƒĂ ƘĜƵƒƨ Ƭ!ƒ Ǉdž ŧŏ!ĜƤĂ ŧŏơ Ƭ ƴdžƵ ŧƑŏŀ ƨŏ5Ăƙ	2
ŧŏ!ĜƵ	0.84	4.10	.ƴdžƶ!ƒ ƴĜƞdž Ǒ5 ŧǁŏƥơ ƱĜdžǉƒ Ĭ!ƒ ŧŏƥŏǁǀƙ!ƒ ŧŏƨƒƥŬƒĂ ŧŏƥĜŏǀ!ƒ ƱĜdžǉŰƒ ƨŏŏƺƙ	3
ŧŏ!ĜƵ	0.91	3.99	.ƴĜdžƵŬƒ ƨŏʅ ŧƶŏŀƱ ǇƵ ŧǀŏƥ ƘĜdžĂǁƶdž ƨŏ5Ăƙ ƴǖƤ Ǉdž ƟĂ ư Ă!ƒĂ ŧŏ5Ĝ5Ƭ!ƒ	4
ŧŏ!ĜƵ	0.88	3.87	.ƥơƒĂ!ƒ ƽŏƨƼ!ƒĂ ǇĂĜƶƙ!ƒ ƟĂƨŀ ƴdžƶ!ƒ	5
ŧƱʅĂƙdž	1.03	3.60	.ƴdžƶ!ƒ ƘƒĈƒƨƞƒ ƴŏnjʅƙĂ ŧŏƱƒƨpĂŏŀ!ƒ ƒ ŏǁǀƙ	6
ŧƱʅĂƙdž	0.93	3.39	.ƨƬĜŀdžĂ Ǒŏơ Ƭ ƴǂƬŀ ƘĜƱĜƬǉ!ƒĂ ŧŏdžĂŏ!ƒ ƴĜdžƵŬƒ ƨĜƞǉŰ ŧƶʅƒĂ ŧơĜʅdž ŧơĜƙƒ	7
ŧƱʅĂƙdž	0.78	3.28	.ŧŏǁƤƒƥ!ƒ ƴdžƶ!ƒ ŧƑŏŀ Ǒ5 ƨdžƙʅdž!ƒĂ ǑŀĜƞŏŰƒ ƨŏŏƺƙ!ƒ	8
ŧƱʅĂƙdž	1.11	3.23	.Ǒƞŏƙƒƨƙʅƒ ƻƥnjǂ ƴdžƶ!ƒ Ǒ5 ĜnjǀŏŀƱƙĂ ŧǁdžĜƬ!ƒ ǀƥĂƞ!ƒ ƨŏŏĜƶdž ƴdž ƴdžĜƶƙ!ƒ	9
ŧƱʅĂƙdž	1.04	3.03	ŧŏƵƒƥŀƒ ƨĜǂ5ƒ Džŏƥǀƙ ĬǁƵ ǇŏǁdžĜƶ!ƒ ƥƵĜʅƙ ŧŏǂƨĜƬƙĂ ŧŏƱƒƨǀdžŏƥ ƴdžƵ ŧƑŏŀ ƨŏ5Ăƙ	10
ŧŏ!ĜƵ	0.57	3.69	ƴǂǂ ƴĜƞdž!ƒ	

Ǵdž ƘơĂƒƧƙ " ýdžƶ!ƒ Ɣŏ!Ǵʅƒ" Ʃ džǴƤ!ƒ ýǴƞdžǁ! ƚŏƶǴʅơ!ƒ ƘǴƱʅĂƙdž!ƒ ǈǅ (11) ýĂƥƞ ǈdž ƧnjƯŏ

Ǐ ù ǁƵ ǈŏǁdžǴùƶ!ƒ ýŏƞƬƙ " ǀƧǀ!ƒ Ƙǁ ƮơĄ ǁ ŏơ Üý ǂǂ ýǴƞdžǁ! ƚŏ!ǴƵ ƚŏǁƵǴ5 ƚƞƧƥǁĂ (4.35 - 3.03) ǈŏǁ

ǐ ƧǴù ŏƶdž ƻƒƧù ơǉƒĂ (4.35) ǉƧƒƥù ǀdž ǑƶǴʅơ ƱʅĂƙdžǁ Ǐ!ĂŰƒ ƚǁƙƧdž!ƒ ǏǁƵ "ǋǁǴƶŏƙʅƒĂ Ƨŏŏʓƙ!ƒ ýǁǀƙ

Ǐ ù ǁƵ " ƱĂʓư!ƒĂ ƘǴƵƒƧƮ!ƒ ǈdž ƚŏ!ǴƤĂ ƚŏơƮ ýdžƵ ƚƑŏǁ Ƨŏ5Ăƙ " ǀƧǀ!ƒ ƘǁƮơĂ Ü(0.87) ǉƧƒƥǀdž

ƘǁƮ ù ơ ǈŏơ Ǒ5 .(1.10) ǉƧƒƥǀdž ǐ ƧǴŏƶdž ƻƒƧơǉƒĂ (4.15) ǉƧƒƥǀdž ǑƶǴʅơ ƱʅĂƙdžǁ ƚŏǉǴƛ!ƒ ƚǁƙƧdž!ƒ

Ǵùdž ƚùǁƙƧdž!ƒ ǏǁƵ " Ǒƞŏƙƒ Ƨƙʅƒ ƻ ƥnjǂ ýdžƶ!ƒ Ǒ5 ǴnjǀŏǁƱƙĂ ƚǁdžǴƬ!ƒ ǀƥĂƞ!ƒ ƧŏŏǴƶdž ydž ýdžǴƶƙ!ƒ" ǀƧǀ!ƒ

ƘǁƮ ù ơ Ǵùdžǉŏǁ Ü(1.11) ǉƧƒƥù ǀdž ǐ ƧǴŏƶdž ƻƒƧơǉƒĂ (3.23) ǉƧƒƥǀdž ǑƶǴʅơ ƱʅĂƙdžǁ ǀƧŏƤŰƒ ýǁp

Ǐ ù ǉƥǅ Ǐ ù ǁƵ "ƚŏƵƒƥǁƒ ƧǴǂ5ƒ Ǆŏƥǀƙ ǏǁƵ ǈŏǁdžǴƶ!ƒ ƥƵǴʅƙ ƚŏǂƧǴƬƙĂ ƚŏƱƒƧǀdžŏƥ ýdžƵ ƚƑŏǁ Ƨŏ5Ăƙ " ǀƧǀ!ƒ

.(1.04) ǉƧƒƥǀdž ǐ ƧǴŏƶdž ƻƒƧơǉƒĂ (303) ǉƧƒƥǀdž ǑƶǴʅơ ƱʅĂƙdžǁ ƚǁƙƧdž

:Ǐ džƑƙǁǁƐ üƐǄ ƨǁƑǴ ǁʂǂyƚǄǁǁƐ ƛəƑƚdžǁǁƐ

ƔqƑøʂǁƐ ǀ ƑǴƑǁǁƚø ƨǁ ǀ ƑƯø ƨǋƚǄ Ǐ øʓ (0.05 =α) ǁŭəƑƬøƟǁ ǁøǁǗq ǀ ƐƤ 5ǋƥʓ qǁǁǋǂ ülj "

njȐøyƚ ǁøǐǄǋǀƟǁƐ ǁøǐdžqƥǕƐ ǀ ƑyǄƑǁǁƐ Ǐʓ ǁŭǀƥƑʅƚǁǁƐ ƔƥƐqŰƐ 5ŭǴƯƚ njqǄǁ ǄǐǐƥƐqŰƐǋ ǄǐǐǄǐqƑǀǕƐ

"Ɖ(ÛǁyǄƑǁǁƐǋ ÛǁŭǂǄyǁƐ ƔƥǴƆǁǁƐ ǀ Ɛǋdž ƨǋ ÛǁŭǂǀǁǁƐ) ǀ ƐƥǐƩƚǄǁ

ƘƒƧŏƥù ǀƙ! ƚŏƧǴŏƶdž!ƒ ƘǴ5ƒƧơǉǕƒĂ ƚŏƶǴʅơ!ƒ ƘǴƱʅĂƙdž!ƒ ƔǴʅơ Ǆƙ ýƒƋʅ!ƒ ƒȐǋ ǈƵ ƚǁǴƞǘ!

Ɣʅơ ÜƚŏdžĂǂơ!ƒ ƚŏǉƥƧŰƒ ƘǴƶdžǴƞ!ƒ Ǒ5 ƚŏǂƧǴƬƙ!ƒ ǀƧƒƥǗƒ ʂŏǁƱƙ ăƥdž! ǈŏŏƧƒƥǗƒĂ ǈŏŏdžŏƥǴǂŰƒ ǀƥǴǀ!ƒ

ǄǴùpƧŰƒ ƘƒȐ ýĂƒƥùƞ!ƒ Ǒù5 ǈŏùǁdž Ăǋ Ǵdžǂ Ă Ü(ƚŏǁǂ!ƒĂ ƚƶdžǴƞ!ƒĂ ƚŏǁdžƶ!ƒ ǀƧǁƤ!ƒ) ƚʅƒƧƥ!ƒ ƘƒƧŏʓƙdž

.(18 - 13)

(**12**) üNjǫШ

(ƕĭǂĎžyΠε ɣβĜƆΙΙε ɭƐNjǚƨ) βĭƩǂĎžΙΙ ƒyĜǂ ƕĭǀβƑʅǂΙΙε ɣβƐǫŰε ƷĭĜƱǂ njǫĎžΙΙ ƕĭβƑĭyĎžΙΙε ɭƑƺƐβΘǚŰƐNj ƕĭĜƑƨΘΙΙε ɭƑƱƨNjǂĎžΙΙε

ɭƐNjǚƨ **10** ĎžĎž βƙǀǀ		ɭƐNjǚƨ **10** ĎžĎž üƺƈ		ƕĭǂĎžyΠε ɣβĜƆΙΙε ɭƐNjǚƨ
ƩƐβΘǚŰε ǎβƑĭyĎžΙΙε	ƱƨNjǂĎžΙΙε ĬĜƑƨΘΙΙε	ǎβƑĭyĎžΙΙε ƩƐβΘǚŰε	ƱƨNjǂĎžΙΙε ĬĜƑƨΘΙΙε	üƑШĎžΙΙε
0.68	3.52	0.51	3.65	ǂŏǆžŏǀǌƙ!ƒ ǂʅʅɑǆž!ƒ ɭĈĜƽǂ
0.56	4.09	0.43	3.77	ǂơĜƙǆž!ƒ ǂŏƧƬƕ!ƒ βƧƒĂǆž!ƒ ɭƧƒβƒ
0.71	3.61	0.65	3.54	ĭƧƒβŬƒ ƇƒβŬƒ
0.49	4.02	0.53	3.92	ŎǀơǆžƑ ɣǆžƙŋǆž!ƒ ɣǆž ǂǂƒƧƬ!ƒ
0.72	3.12	0.44	2.82	ýǆžƶ!ƒ Ɣŏ!Ĝʅƒ
0.63	3.67	0.51	3.54	ǂŏǂƧĜƬƙ!ƒ ɭƧƒβŬƒ ƽŏƕƱƙ ǎβǆž / ýǂǂ ýĜŋǆž!ƒ

(ƘƒĂǁùʅ10 ǇĎž ƧƛǂĎ) ɭƧƕƤ!ƒ ĭĂƦ! ǂŏƕĜʅơ!ƒ ƘĜƱʅĂƙǆž!ƒ ǇĎ (12) ĎžǆƧ ýĂβŋ!ƒ ǇĎž ƧnjƲŏ

ɣùǆžƙŋǆž!ƒ ɣùǆž ǂǂƒƧƬù!ƒĂ Üĭ ƧƒβŬƒ ƇƒβŬƒĂÜǂơĜƙǆž!ƒ ǂŏƧƬƕ!ƒ βƧƒĂǆž!ƒ ɭƧƒβƒ) ƘŬĜŋǆž Ŏƽ ĬǀƵĎ ƘǀĜǂ

ŎƕĜʅùơ!ƒ ƱùʅĂƙǆž!ƒ ǇĜǂĂ Ü(ǂŏǂƧĜƬƙ!ƒ ɭƧƒβŬƒ ƽŏƕƱƙ ǎβǆž) /ýǂǂ ýĜŋǆž!ƒĂ ýǆžƶ!ƒ Ɣŏ!Ĝʅƒ ,ŎǀơǆžƑ

.(ǂŏǆžŏǀǌƙ!ƒ ǂʅʅɑǆž!ƒ ɭĈĜƽǂ) ýĜŋǆž Ŏƽ ĬǀƵĎ (ƘƒĂǁʅ10 ǇĎž ýƤĎ) ɭƧƕƤ!ƒ ĭĂƦ!

(**13**) üNjǫШ

(ƕyĎžƑШΙΙε)βĭƩǂĎžΙΙ ƒyĜǂ ƕĭǀβƑʅǂΙΙε ɣβƐǫŰε ƷĭĜƱǂ njǫĎžΙΙ ƕĭβƑĭyĎžΙΙε ɭƑƺƐβΘǚŰƐNj ƕĭĜƑƨΘΙΙε ɭƑƱƨNjǂĎžΙΙε

ɭĭĜΙΙε üƆ ƕyĎžƑШ		ƑĭШNjΙNjǚ ǀǂΙΙƐNj !NjǂyΠε ƕyĎžƑШ ƕĭǚǫβŬε		ƤNjĎžβĭΙΙε ƕyĎžƑШ		ƕyĎžƑШΙΙε
ƩƐβΘǚŰε ǎβƑĭyĎžΙΙε	ƱƨNjǂĎžΙΙε ĬĜƑƨΘΙΙε	ƩƐβΘǚŰε ǎβƑĭyĎžΙΙε	ƱƨNjǂĎžΙΙε ĬĜƑƨΘΙΙε	ƩƐβΘǚŰε ǎβƑĭyĎžΙΙε	ƱƨNjǂĎžΙΙε ĬĜƑƨΘΙΙε	üƑШĎžΙΙε
0.51	3.73	0.67	3.81	0.50	3.74	ǂŏǆžŏǀǌƙ!ƒ ǂʅʅɑǆž!ƒ ɭĈĜƽǂ
0.49	3.77	0.53	3.94	0.44	3.92	ǂơĜƙǆž!ƒ ǂŏƧƬƕ!ƒ βƧƒĂǆž!ƒ ɭƧƒβƒ
0.67	3.62	0.69	3.71	0.67	3.66	ĭƧƒβŬƒ ƇƒβŬƒ
0.48	4.06	0.52	3.94	0.47	3.06	ŎǀơǆžƑ ɣǆžƙŋǆž!ƒ ɣǆž ǂǂƒƧƬ!ƒ
0.53	2.91	0.49	2.99	0.44	2.93	ýǆžƶ!ƒ Ɣŏ!Ĝʅƒ
0.29	3.62	0.27	3.68	0.51	3.66	ƽùŏƕƱƙ ǎβùǆž / ýùǂǂ ýĜŋǆž!ƒ ǂŏǂƧĜƬƙ!ƒ ɭƧƒβŬƒ

[illegible] (13) [illegible]

[illegible]

[illegible]

[illegible]

.([illegible])

(**14**) [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.44	4.03	0.48	3.67	[illegible]
0.45	4.14	0.42	3.78	[illegible]
0.51	4.09	0.62	3.47	[illegible]
0.46	4.25	0.42	3.95	[illegible]
0.42	3.07	0.47	2.88	[illegible]
0.21	3.92	0.28	3.55	[illegible]

[illegible] (14) [illegible]

.[illegible]

[illegible]

[illegible] (0.05 =α) [illegible]

. [illegible] (15) [illegible]

(15) [illegible]

[illegible]

[illegible]	F	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.640	0.210	0.028	1	0.028	[illegible]	[illegible] = [illegible] 0.95
0.214	1.518	0.260	1	0.260	[illegible]	
0.946	0.001	0.000	1	0.000	[illegible]	
0.363	0.839	0.173	1	0.173	[illegible]	
0.424	0.633	0.145	1	0.145	[illegible]	
0.589	0.536	0.064	2	0.124	[illegible]	[illegible] =Σ [illegible] 0.94
0.337	1.082	0.187	2	0.375	[illegible]	
0.560	0.577	0.206	2	0.414	[illegible]	
0.142	1.980	0.403	2	0.807	[illegible]	
0.541	0.610	1.436	2	0.270	[illegible]	
0.000	12.773	61.438	2	2.874	[illegible]	[illegible] Σ [illegible] 0.65 =
0.000	12.435	2.162	2	4.422	[illegible]	
0.000	28.678	10.320	2	20.640	[illegible]	
0.000	15.436	3.150	2	6.300	[illegible]	
0.004	5.606	1.245	2	2.485	[illegible]	

[illegible] (15) [illegible] (0.05=α) [illegible] (0.05=α) [illegible].

(**16**) üNjqⅢ

ƒƨѲ (üǀǀ ƔɛqŬɛ) ǀƑƱƨNjŁDž ĂǂƳ DžĩĩþɛqŰɛNj DžĩĩDžĭqƑǀŬɛ ƔqƑšǁɛ ǀɛþĭqşŁ ǀƑƱƨNjŁDž DžĩƓ Ĭƙǘƙǁɛ DžĩƑƓǁɛ üĭǂѲŁ

(hŭǂǀǁɛNj ÛhyDžƑШǁɛNj ÛhŭǂDžyǁɛ ƔþƓƆǁɛ) : ǀɛþĭƸŁDž

hŭəƑƬѲŰɛ hɯŰqǁɛ	**F**	ǀƑyƓþDžǁɛ ƱƨNjŁDž	hŭþѲǁɛ ǀƑШþq	ǀƑyƓþDžǁɛ ƱNjDžШDž	þqƬDžǁɛ
0.171	1.885	0.115	1	0.115	ŁŏǁDžƨ!ƒ ǀƧhƤ!ƒ
0.443	0.818	0.053	2	0.107	ŁƶDžƓɳ!ƒ
0.000	43.287	2.871	2	5.743	ŁŏǁǂǃƒɁ
		0.089	158	14.234	ƋƱƤ!ƒ
			163	20.199	ƳĂDžɳDž!ƒ

:Őǁŏ ƓDž (16) ýĂþɳ LJDž ƧnjƲŏ

1. Ŭ þɳĂƙ ƫĂƧ5 ƘƒƦ Ł!Ǖþ ŁŏƑƓƬƍƹ ƀǈƵ ăĂƙƪDž Ł!Ǖþ!ƒ (0.05=α) ăþDž! ƙƱŏhŭùƫ ƒǕþƒƧǀ

.(ŁƶDžƓɳ!ƒ ĂD ŁŏǁDžƨ!ƒ ǀƧhƤ!ƒ) ĭ ƧŏƺƙDž! ăƨƶƙ ŁŏǂƧƓƬƙ!ƒ

2. ƙĂɳþ ƫĂƧ5 ƘƒƦ Ł!Ǖþ ŁŏƑƓƬƍƹ ƀǈƵ ăĂƙƪDž Ł!Ǖþ!ƒ (0.05=α) ăþDž! ƙƱŏhŭƫ ƒǕþƒƧǀ

.ŁŏǁǂǃƒɁ ƧŏƺƙDž! ăƨƶƙ ŁŏǂƧƓƬƙ!ƒ

:Ƙǁƒƙǁɛ üɛDƨǁƑƓ hŭşǂyŁDžǁɛ ƛəƑŁDžǁɛ

" ƑDž þNjq Ɣþɛqǖɛ hŭǀþƑƪŁǁɛ Ĭƺ ƦĭƦyŁ hŭƺƑşƙǁɛ hŭĩDžĭƭǂŁǁɛ Ĭƺ ǀƑyDžƑШǁɛ hŭøĭDžqþŬɛ hŭøĭDžNjǀѲǁɛ DžøDž

." Ý DžĩĩDžĭqƑǀŬɛ ƔqƑšǁɛ þƭDž hŭNJШNj

ŁhŭƓɳǘ!Ă ƖǈƵ ƒƦNj ýƒƋƪ!ƒ þǀ5 Džƙ ƔƓƪƍ Ƙ ƓƱƪĂƙDž!ƒ ŁŏhŭƓƪƍ!ƒ ƘƓ5ƒƧƍǈŰƒĂ ŁùŏƧƓŏƶDž!ƒ ýù ǂ!

ƔƓɳDž ýƓɳDžǁ!Ă (ŁŏDžŏƲǈƙ!ƒ ŁƼƓǀƛ!ƒ Ŏ5 ƨŏƨƶƙ ŁŏǂƧƓƬƙ!ƒ ǀƧƒþŬƒ ƧĂþ) ƘŰƓɳDž LJDž ýƓɳDž Ǖýǂǂ ýĂþɳ!ƒĂ ƧpùDž

. ǁ !Ʀ LJŏhŏ (17)

(17) [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	3	[illegible]	3.79	0.74	[illegible]
2	1	[illegible]	3.68	0.61	[illegible]
3	2	[illegible]	3.59	0.58	[illegible]
		[illegible]	3.69	0.64	[illegible]

[illegible] (17) [illegible] (3.79 - 3.59) [illegible] (3.69) [illegible] (0.74) [illegible] (3.79) [illegible] (0.61) [illegible] (3.68) [illegible] (3.59) [illegible] (0.58) [illegible].

[illegible] (21-18) [illegible].

(18) [illegible]

" [illegible] "

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	[illegible]	4.06	1.03	[illegible]
2	[illegible]	4.04	1.11	[illegible]
3	[illegible]	3.79	0.93	[illegible]
4	[illegible]	3.76	1.05	[illegible]
5	[illegible]	3.61	1.08	[illegible]
6	[illegible]	3.58	0.95	[illegible]
7	[illegible]	3.34	1.06	[illegible]
8	[illegible]	3.26	0.97	[illegible]
	[illegible]	3.68	0.61	[illegible]

[illegible] (18) [illegible] " [illegible] (4.06-3.26) [illegible] " [illegible] " [illegible] (4.06) [illegible] (1.03) [illegible] " [illegible] (4.04) [illegible] (1.11). [illegible] " [illegible] (3.34) [illegible] (1.06) [illegible] " [illegible] (3.26) [illegible] (0.97).

ǕƒƧƤƙƪƨ Ɖƙ ƥƖ5 ÜƝƙƒƧƖƼ ǑƗǴƛ!ƒ ýǴƞƉǃ! ƗőƧǴőƶƉ!ƒ ƘǴ5ƒƧơƗǗƒǍ ƗőƼǴƪơ!ƒ ƘǴƱƪǍƙƉ!ƒ Ɨ5Ƨƶƍ!Ǎ

:ǑǃŐ ǴƉǂǍ Üýǂǂ ýǴƞƉ!ƒǍ ƖƧƖ5 ýǂ! ƗőƧǴőƶƉ!ƒ ƘǴ5ƒƧơƗǗƒǍ ƗőƼǴƪơ!ƒ ƘǴƱƪǍƙƉ!ƒ

(**19**) üƝƣǕ

ƾǃƦǴǂ ƼǴǂƥƉ " ƼǏƉǐƲǂƗƐ ƪƑƴƝǂƐ " ǏǴƑƙƐ üƑǕƉƐ ƪƐƥƨƺ ƲǏƉǕƐ ƪƑƺƐƥƟǴǗƐǈ ƼǏǴƑƨƟƐ ƪƑƲƨƝǂƉƐ

ƼǕƥƣ ƥǏƣƨǂƐ	ƩƐƥƟǴǗƐ ăƥƑǏƴƉƐ	ƲƨƝǂƉƐ ǏǴƑƨƟƐ	ƴƥƨƧƐ	!5ƥƐ
Ɨő!ǴƵ	0.87	4.25	.ƗƶƉǴƞ!ƒ ǕǴőƙơƒ ǏǃƵ ǴǴƗƼǍ ƗőƗǆƉ ƩƪƒǏǃƵ ǇǑǃƉǴƶ!ƒ ƧőƱǍƙ Ɖƙő	1
Ɨő!ǴƵ	0.94	4.10	.ƗƶƉǴƞ!ƒ Ǒ5 ǇǑǃƉǴƶ!ƒ ǇǑƼ ƗƼőƱ ƗőƵǴƉƙƞƒ ƘǴƿǖƵ ƥǍƪƙ	2
Ɨő!ǴƵ	0.96	4.08	ƦǴƤƙƒ Ǒ5 ƗǂƧǴƬƉ!ƒ ƗőƉƝǃƼ ǇǑőƉőƥǴǂǗƒ ƗƥǴ!ƒ ăƥ! ƘǴƵǴƗƿ ƥƞǍő .ƘƒƧƒƧ!ƒ	3
Ɨő!ǴƵ	0.82	3.86	.ƗƥőǃǴƖƙǍ ýǃƉƙƞƉ!ƒ ƘƒƥǴƵ ƉƒƧƙơƒ ǏǃƵ ƖƧƒƥǗƒ Ɨơƙ	4
Ɨő!ǴƵ	0.91	3,72	.ǴǆǃőƤ ýƉ ǇǑǃƉǴƶ!ƒ Ɖőƥ ƾ5ƒǍƙ ǏǃƵ ƗƶƉǴƞ!ƒ ýƉƶƙ	5
ƗƱƪǍƙƉ	0.99	3.63	.ǴőǍƗƶƉǍ ǴőƥǴƉ ƥőƞ!ƒ ǴƒƥǕǗƒ ǏǃƵ ǇǑǃƉǴƶ!ƒ ƗƶƉǴƞ!ƒ ƖƧƒƥƒ ƨ5ơƙ	6
ƗƱƪǍƙƉ	1.11	3.32	.ýƥƶ!ǴƼ ƗƶƉǴƞ!ƒ Ǒ5 ƗőƉőƱƗƙ!ƒ ƘǴƉőǃƶƙ!ƒǍ ƥƵƒǍǃ!ƒ Ɖƪƙƙ	7
ƗƱƪǍƙƉ	1.25	2.74	.ƧǴǂƙƼǗƒǍ ƳƒƥƼǗƒ ǏǃƵ ǇǑǃƉǴƶ!ƒ ƗƶƉǴƞ!ƒ ýƞƬƙ	8
ƗƱƪǍƙƉ	1.00	2.61	.ƗőƮƤƬ!ƒ ƘǴƿǖƶ!ƒǍ ýƉƶ!ƒ ǇǑƼ ƗƶƉǴƞ!ƒ ƖƧƒƥƒ ýƮ5ƙ	9
ƗƱƪǍƙƉ	0.58	3.59	ýǂǂ ýǴƞƉ!ƒ	

" ƗőƉőƱƗƙ!ƒ ƘǴƶƥǍƙ!ƒ " ǑƗǴƛ!ƒ ýǴƞƉ!ƒ ƘƒƧƖ5! ƗőƼǴƪơ!ƒ ƘǴƱƪǍƙƉ!ƒ ǇǃƉ (19) ýǍƥƞ ǇƉ ƧǌƱő

Ɖƙùő " ƖƧùƖ5!ƒ ƘǃƮùơ Ɨőơ Üýǂǂ ýǴƞƉǃ! ƗƱƪǍƙƉ ǇǃƪơƙƗƞƧƥƼǍ (4.25-2.61) ǇǑƼ ǴƉ ƘơǍƒƧƙ

ǑƼǴƪùơ ƱƪǍƙƉƼ ǏǃǍǗƒ ƗƼƙƧƉ!ƒ ǏǃƵ " ƗƶƉǴƞ!ƒ ǕǴőƙơƒ ǏǃƵ ǴǴƗƼǍ ƗőƗǆƉ ƩƪǇ ǏǃƵ ǇǑǃƉǴƶ!ƒ ƧőƱǍƙ

ƗùƼőƱ ƗùőƵǴƉƙƞƒ ƘǴƿǖƵ ƥǍƪƙ " ƖƧƖ5!ƒ ƘǃƮơǍ Ü(0.87) ǇƧƒƥƖƉ ǏƧǴőƶƉ ƧƒƧơƗƒǍ (4.25) ǇƧƒƥƖƉ

ǏƧǴùőƶƉ ƧƒƧùơƗƒǍ (4.10) ǇƧƒƥùƖƉ ǑƼǴƪơ ƱƪǍƙƉƼ ƗőƗǴƛ!ƒ ƗƼƙƧƉ!ƒ ǏǃƵ "ƗƶƉǴƞ!ƒ Ǒ5 ǇǑǃƉǴƶ!ƒ ǇǑƼ

ýƼƥ ǴƉ ƗƼƙƧƉ!ƒ ǏǃƵ "ƧǴǂƙƼ!ƒǍ ƳƒƥƼǗƒ ǏǃƵ ǇǑǃƉǴƶ!ƒ ýőƞƬƙ" ƖƧƖ5!ƒ ƘǃƮơ ǇǑơ Ǒ5 .(0.94) ǇƧƒƥƖƉ

ƖƧùƖ5!ƒ ƘǃƮùơ ǴƉǇǑƼ Ü(1.25) ǇƧƒƥƖƉ ǏƧǴőƶƉ ƧƒƧơƗƒǍ (2.74) ǇƧƒƥƖƉ ǑƼǴƪơ ƱƪǍƙƉƼ ƖƧőƤǕƒ

ljƧƒþùǀdž ǑǁǤʅơ Ʊʅ Ăǩdžǁ ǀƧǒƤŰƒ ƚǁǩƧdž!ƒ ǏǉƵ "ƚǒƮƤƮ!ƒ ƘǤþűz!ƒĂ ýdžz!ƒ ǇǒǁƚzdžǤŋ!ƒ ǀƧƒþǫ ýƮǩ"

.(1.00) ljƧƒþǀdž ǐƧǤǒzdž ƻƒƧơljƒĂ (2.61)

Džùǩ þùǀ5 ÜǊùǩƒƧǀǁ ƚù!Ǥ!ƒ ýǤùŋdžǀ! ƚǒƧǤǒzdž!ƒ ƘǤ5ƒƧơljŰƒĂ ƚǒǁǤʅơ!ƒ ƘǤƱʅĂǩdž!ƒ ƚ5Ƨzdž!Ă

:Ǒǀǒ Ǥdžǂ Ă Üýǂǂ ýǤŋdž!ƒĂ ǀƧǀ5 ýǂ! ƚǒƧǤǒzdž!ƒ ƘǤ5ƒƧơljŰƒĂ ƚǒǁǤʅơ!ƒ ƘǤƱʅĂǩdž!ƒ ƜƒƧƤǩʅǫ

(**20**) üǊǭƜ

" ǁȳǤƚƊǆǁǁ ǀƑƨƑĭƨǁǁƝ ǅǅǁǆƝǂǁǁƝ ǁƊǆưǁǁ " ƘǁƑǁǁ üƑƜǆǁǁ ǀƐþƨ ƱǁǆƜǁ ǁĭþƑǁǆǁ ǀƑƐþƟǁǁƝ ǁĭǤƑƨƟǁǁ ǀƑƯƨƝƚƊǆǁǁ

þǁǁƦƑǁǂ ǁǤƚþǅ

ǁƜþǭ þǭƨǁǁ	Ʃ Ɛ þƟǁ ăþƑǁǆǁ	Ư ƨ Ɲ ƚ Ɗ ǁǁ Ĭ Ǥ ƨ Ɵ ǁǁ	ƴþƨƧǁǁ	!5þǁǁ
ƚǒ!ǤƵ	0.78	4.44	Ǥǌǁ ýĂdžzdž!ƒ ǇǒljƒĂ!ƒĂ ƚdžƲljŰƒ ƚzǒǁƱǁ Ǉǒǀdžz!ƒ ăþ! ǅǤƵ Ǆǌ5 þŋĂǒ .ƚzdžǤŋ!ƒ Ǒ5	1
ƚǒ!ǤƵ	1.01	4.10	.ƚƱʅ!ƒ ƯǒĂ5ǩ! ýǤŋdž!ƒ ƚzǁǩdž!ƒ ǇǒljƒĂ!ƒĂ ƚdžƲljŰƒ Ƨ5Ăǩ	2
ƚǒ!ǤƵ	1.03	3.80	.ƻƒƧƱŰƒ ýǂ! ƚljǤdžư ǀþƑǤʅ!ƒ ǇǒljƒĂ!ƒĂ ƚdžƲljŰƒ Ƨǁǩzǩ	3
ƚǒ!ǤƵ	1.04	3.74	.ƚzdžǤŋ! ǇǤdžǩljŰƒĂ ǇŰĂ!ƒ ƨǒƨzǩ Ǒ5 ƚzǁǩdž!ƒ ƘǤʅǤǒʅ!ƒ ǅǊǤʅǩ	4
ƚƱʅĂǩdž	1.09	3.65	Ǉƒƨŋƒ þljƵ ǀþdžǩzdž!ƒ Ʃ ǒǒǤǀdž!ƒĂ Ƨǒǒǒzdž!ƒ ƳǤǁǩǤǁ ƚzdžǤŋ!ƒ ǀƧƒþƒ ǅĂǀǩ .ƘǤǒþƧǩ!ƒ	5
ƚƱʅĂǩdž	1.02	3.58	ƒ ljǩ Ǥdž ƾǒǁƱǩ ǏǉƵ Ǉǒǒdžǒþǂǂƒ ǀþǤǀ!ƒ ýǁþ Ǉdž ýdžǤǂ Džƒƨǩ!ƒ þŋĂǒ .ǀþdžǩzdž!ƒ ǇǒljƒĂ!ƒĂ ƚdžƲljŰƒ ǋǒǉƵ	6
ƚƱʅĂǩdž	1.10	3.56	.ƘƒƧǒƺǩ!ƒĂ ƘƒƧĂƱǩ!ƒ ƚǁǂƒĂdžǁ Ǥǌǒ5 ýĂdžzdž!ƒ ǇǒljƒĂ!ƒĂ ƚdžƲljŰƒ ǅǊǤʅǩ	7
ƚƱʅĂǩdž	1.09	3.45	.ƚǁĂǉƱdž!ƒ ǀþĂŋ!ƒ Ƨǒǒǒzdž ƚzǁǩdž!ƒ ƘƒǇƒƧŋŰƒĂ ƘǤʅǤǒʅ!ƒ ǑƵƒƧǩ	8
ƚǒ!ǤƵ	0.74	3.79	ýǂǂ ýǤŋdž!ƒ	

ǇǒljƒĂù!ƒĂ ƚùdžƲljŰƒ " ƚ!Ǥ!ƒ ýǤŋdž!ƒ ƘƒƧǀ5! ƚǒǁǤʅơ!ƒ ƘǤƱʅĂǩdž!ƒ ǇǊ (20) ýĂþŋ Ǉdž ƧǌƲǒ

ƚùǒơ Üýùǂǂ ýǤùŋdžǀ! ƚùǒ!ǤƵ ǇǊʅơǩ ƚŋƧþǁĂ (4.44-3.45) Ǉǒǁ Ǥdž Ƙ ơĂƒƧǩ " ƚzǁǩdž!ƒ ƘǤʅǤǒʅ!ƒĂ

" ƚùzdžǤŋ!ƒ Ǒù5 Ǥǌǁ ýĂdžzdž!ƒ ǇǒljƒĂ!ƒĂ ƚdžƲljŰƒ ƚzǒǁƱǁ Ǉǒǀdžz!ƒ ăþ! ǅǤƵ Ǆǌ5 þŋĂǒ " ǀƧǀ5!ƒ ƘǉƮơ

ƘǉƮùơĂ Ü(0.78) ljƧƒþùǀdž ǐƧǤǒzdž ƻƒƧơljƒĂ (4.44) ljƧƒþǀdž ǑǁǤʅơ ƱʅĂǩdžǁ Ǐ!ĂŰƒ ƚǁǩƧdž!ƒ ǏǉƵ

Ʊùʅ Ăǩdžǁ ƚùǒljǤ!ƒ ƚùǁǩƧdž!ƒ ǏǉƵ " .ƚƱʅ!ƒ ƯǒĂ5ǩ! ýǤŋdž!ƒ ƚzǁǩdž!ƒ ǇǒljƒĂ!ƒĂ ƚdžƲljŰƒ Ƨ5Ăǩ " ǀƧǀ5!ƒ

[illegible] .(1.01) [illegible] (4.10) [illegible]

[illegible]

[illegible] (1.10) [illegible] (3.56) [illegible]

(3.26) [illegible]

.(1.15) [illegible]

:[illegible]

[illegible] "

."[illegible]

[illegible] ([illegible]) [illegible]

.(21) [illegible]

(21) üNjǫƜ

ƕʒFʂƙǁ ƦĭƦyƗ l ŰƑƜƊǅNj ƕĭ l ƥF ʅ Ɨǁ Ɣƥ ɛǫǖǁ ƊĭĭƊĭǫF l Ǘ ƔǫFʂǁ ƼĭǴƱ njǫƊ l ŰƑƜƊ ƊĭǴ (ƊNjƨƥĭǴ) ƱFǴƗƥ l ǘƊƑyƊ
ü l l ƔɛǫǗNj ƕĭƊĭɰƗǁ

ƕƜƥǫ/ü l l üƑƜƊǁ ƃɛǫǗ Ɗƨ Ɵƚ Ĭ ƨ ƨ ƊƊǁ	l ƑyƼNjƗǁ ƕĭƊĭɰƗǁ	!ĭʂǁ l ɛǫʂƗyƊǁNj ƕĭƊĭɰƗǁ	ƕƊɰǗ ƊĭƊNjʂǁNj l Fƨ Ƒĭ ƨ ǁNj	üƑƜƊǁ	
**0.427 0.000 164	**0.307 0.000 164	**0.412 0.000 164	**0.382 0.000 164	ƨ ƗőƑǴ Ʈ ơŰƒ Ɨ!Ǖƥ!ƒ ƥƥz!ƒ	ƥƨƒǍƊ!ƒ lƨƒƥǫ ƗơǴƙƊ!ƒ ƗőƨT!ƒ
**0.382 0.000 164	**0.270 0.000 164	**0.398 0.000 164	**0.306 0.000 164	ƨ ƗőƑǴ Ʈ ơŰƒ Ɨ!Ǖƥ!ƒ ƥƥz!ƒ	Ɨ ʅ ʅ ƌƊ!ƒ lǴʒƗ ƗőƊőƖzƙ!ƒ
**0.487 0.000 164	**0.473 0.000 164	**0.502 0.000 164	**0.349 0.000 164	ƨ ƗőƑǴ Ʈ ơŰƒ Ɨ!Ǖƥ!ƒ ƥƥz!ƒ	ĭ ƨƒƥŰƒ Ǵƒƥǖƒ
**0.612 0.000 164	**0.581 0.000 164	**0.752 0.000 164	**0.612 0.000 164	ƨ ƗőƑǴ Ʈ ơŰƒ Ɨ!Ǖƥ!ƒ ƥƥz!ƒ	ýƊz!ƒ Ɣő!Ǵ ʅ Ɗ
**0.254 0.000 164	**0.208 0.000 164	**0.296 0.000 164	**0.162 0.009 164	ƨ ƗőƑǴ Ʈ ơŰƒ Ɨ!Ǖƥ!ƒ ƥƥz!ƒ	yƊ Ɨǂƒƨ T!ƒ ǑƖơƊ!ƒ yƊƙɳƊ!ƒ
**0.711 0.000 164	**0.587 0.000 164	**0.717 000. 164	**0.593 0.000 164	ƨ ƗőƑǴ Ʈ ơŰƒ Ɨ!Ǖƥ!ƒ ƥƥz!ƒ	/ ýǂǂ ýǴɳƊ!ƒ ƊŪǉ ƗőƖZǴ Ɨɳƨƥ ƘǴƊǍƖzƊ!ƒ Ɨőƨƒƥǖƒ

(0.05) ăǍƙʅƊ ƥǉZ Ɨ!ƒƥ ʂǍƨƒ *

Ɨőǂƨ ǴTùƙ!ƒ lƨƒƥŰƒ ʂùőƕƱƙ ǇőùƕƗőƕǴɳő ƗőƱǴƕƙƨǫ ƗƥǖZ ƥɳǍƙ ƝǇƊ (21) ýǍƥɳ!ƒ ǇƊ Ơɯƙő

lƒƥǕƒǍ Ɨù ʅ ƒƨƥ!ƒ ƘǗǴɳƊ yőƊɳ ĬƖZ ǁ!ƦǍ ƗőƊǍǂơ!ƒ ƗőǉƥƨǕƒ ƘǴzƊǴɳ!ƒ Ǒƽ ƗőƊőŪǉƙ!ƒ ƗƼǴlƛ!ƒ ƨőƨzƙǍ

.ýǂǂ

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

$(0.05 = \alpha)$

ΣĜdžơ Ĭ!ƒ ǁ!Ʀ ăƨƶŏĂ ŧŏdžŏǁƶƙ!ƒ ŧƪƪƋdž!ƒ ƖĈĜ5ŧ ýĜƞdžƕ ĬǁƵD ƧŏƥƖƙ ĬǁƵ ƖƧƕƤ ýƿŬƒ ǇŏŏdžŏƥĜŧǕƒ

.ƧƮƶ!ƒ ƘƒƧĂƱƙ ydž ŧƕŧƒĂdž Ƨƛŧƒ Ă ƥƞƙƪdžĂ ŧŏƥơ ĂNj Ĝdž ýŧ ƼŏƕƱƙĂ ýƖǉ! ƖƥĜƖ!ƒ ĈŬƋNj

ǵƶƕƙ "ŧŏdžĂŧơ!ƒ ƘĜƶdžĜƞ!ƒ Ŏ5 ŧŏŧƧĜƬƙ!ƒ ƖƧƒƥǚ! ǇŏŏdžŏƥĜŧǕƒ ƖƥĜƖ!ƒ ƼŏƕƱƙ ăƥdž!" ŧƕƪǉ!Ĝƕ ĜdžD

ŧŏǉƥƧǕƒ ĜŏƞĂ!Ăǉŧƙ!ƒĂ DžĂǁƶ!ƒ ŧƶdžĜƞ! ŧŏƕĜƪơ!ƒ ƘĜƱƪĂƙdž!ƒ ǇD ǸƑĜƙǉ!ƒ ƘƧnjƱD ƥƖ5 Üŧƶdž Ĝƞ!ƒ Ƨŏƺƙdž!

Üĭ ƧƒƥŬƒ ĈƒƥǕƒ ÜŧŏƧƬƕ!ƒ ƥƧƒĂdž!ƒ ƖƧƒƥƍ Üŧŏdžŏǁƶƙ!ƒ ŧƪƪƋdž!ƒ ƖĈĜ5ŧ) ƘŬĜƞdž Ŏ5 ǁ!ƦĂ ĬǁƵD ƘǉĜŧ

ǁ!Ʀ Ɣƕƪ ŧơĜƕ!ƒ Ăƨƶŏ ǇD Ǉŧdž ŏĂ Ü(ŧŏŧƧĜƬƙ!ƒ ƖƧƒƥŰƒ ƼŏƕƱƙ ăƥdž / ýŧŧ ýĜƞdžǁ!Ă ýdžƶ!ƒ Ɣŏ!ĜƪDĂ

ŧŏdžǁƵ ŧƶdžĜƞ ĜnjǉD ŧŏơ ÜĜŏƞĂ!Ăǉŧƙ!ƒĂ DžĂǁƶ!ƒ ŧƶdžĜƞ! ŧŏƛơƕ!ƒĂ ŧŏdžǁƶ!ƒ ƘĜƮƮƤƙ!ƒ ŧƶŏƕƱ Ĭ!ǫ

.ŧŏƞĂ!Ăǉŧƙ!ƒĂ ŧŏdžƿƧ!ƒ ƘĜƮƮƤƙ!ƒ ýĂĜǉƙƙ ÜŧŏƖŏƕƱƙĂ

ĜŏƞĂ!Ăǉŧƙ!ƒĂ DžĂǁƶ!ƒ ŧƶdžĜƞ ĜnjŏǁƙDžƛ Ƙŏƕ!ƒ ýĉ ŧƶdžĜƞ! ĬǁƵD ŎƕĜƪơ!ƒ ƱƪĂƙdž!ƒ ǇĜŧ Ĝdžǉŏƕ

ǁ!Ʀ ăƨƶŏ ǇD Ǉŧdž ŏĂ Ü(Ŏǁơdž!ƒ ydžƙƞdž!ƒ ydž ŧŧƒƧƬ!ƒ) ýĜƞdž Ŏ5 ǁ!ƦĂ, ǁĂdžƧŏ!ƒ ŧƶdžĜƞ Džƛ ŧŏǉƥƧǕƒ

.ýĜơ!ƒ yƿƒĂ ĬǁƵ ĜnjƪƽǉƱ ƧƽƙŧŏƞƧĜƤ!ƒ ŧƑŏƕ!ƒ ŧƶŏƕƱ ǇD Ĭ!ǫ

Ŏ5 (0.05=α) ŧ!Ŭƥ!ƒ ăĂƙƪdž ƥǉƵ ŧŏƑĜƮơǫ ŧ!Ŭƥ ƘƒƦ ƼĂƧ5 ƥĂƞĂ DžƥƵ ǸƑĜƙǉ!ƒ ƘƧnjƱDĂ

ĭƧŏƺƙdž! ăƨƶ ŧŏdžĂŧơ!ƒ ŧŏǉƥƧǕƒ ƘĜƶdžĜƞ!ƒ Ŏ5 ŧŏŧƧĜƬƙ!ƒ ƖƧƒƥŬƒ ƼŏƕƱƙ!ƒ ăƥdž ƘŬĜƞdž yŏdžƞ

ŧŏŧƧĜƬƙ!ƒ ƖƧƒƥŬƒ Σƪƒ ƼŏƕƱƙ ŧŏdžNjD Ĭ!ǫ ǁ!Ʀ Ŏ5 Ɣƕƪ!ƒ ăƨƶ ǇD Ǉŧdž ŏĂ Ü(ŧŏǁŧ!ƒĂÜŧŏǁdžƶ!ƒ ƖƧƕƤ!ƒ)

ýdžĜŧƙ ĬǁƵ ŧŏdžŏǁƶƙ!ƒ ƘĜdžƱǉdž!ƒ ýdžƶƙ ŧŏơ ÜƘĜƪƪƋdž!ƒ ǁǁƙ ƟĜƞǉ Ŏ5 ĜNjƧĂƥĂ ƘĜƶdžĜƞ!ƒ Ŏ5

ƨĜƞǉǫ ĬǁƵ ƖƧƥƖ!ƒ ĜnjŏǁdžĜƵĂ ŧŏƶdžĜƞ!ƒ ƘƒƧƒƥŬƒ ŎƱƶƙĂ ÜƘĜƶdžĜƞ!ƒ ýƤƒƥ ŧŏƧƒƥŬƒ ƘĜŏǁdžƶ!ƒĂ ƨƑĜƱĂ!ƒ

.ŧŏ!ĜƵ ƖƥĂƞƕ Ĝnjƕ ŧƱĂǉdž!ƒ ŧŏƧƒƥŬƒ ƨƑĜƱĂ!ƒĂ DžĜnjdž!ƒ ŧ5Ĝŧ

ĆfĂƙơf Ǐ𝄞Ƶ þƵĆʅŏĂ ƚŏđžŏ𝄞ƶƙ!f ƚđžƱǉđž!f ĎžŏpĂ ƚŏþƧƨ!f Ďžŏl!f ǇĴŏƕ Ćđž ƭ5fĂƙ!f ǇĴđž ýnjʅŏ Ćnjŏ5 ýĂđžƶđž!f

ƘƧnjƱĐ Ćđžǂ .ƨfƨđžƙʅĆƕĂ ýþĂ!f ƚƶŏƨʅ!f ƚŏđž!Ćƶ!f ƘfƧĂƱƙ!f ƚƕǂfĂđžĂ Ƙfþŋƙʅđž!f ƚnjŋfĂđžĂ ƘĆđžƨǗf

ƖþĂŋ!f ƧŏŏĆƶđž ƚƶƕƙđž!f ƘfĆfƧŋǗfĂ ƘĆʅĆŏʅ!f ǑƵfƧƙ) ƖƧƖƽ! ǇĴĆǂ ǑƕĆʅơ Ʊʅ Ăƙđž Ǐǉþ Đ ǇĴĐ ǋFĆƙǉ!f

ƘfĆfƧŋfĂ ƘĆʅĆŏʅ! Ć𝄞5Ă ĎžƙƙǊđžĆnjđž! ǉƨĆŋǉf Ŏ5 þƧƨ!f ƚƶŏƕƱ ǇĴĐ Ǐ!ǫ 𝄞!Ʀ ăƨƶƀ ǇĴǂđžŏĂ .(ƚƕĂ𝄞Ʊđž!f

Ćđž ƚƕǂfĂđž! ƚƕĂ𝄞Ʊđž!f ƚǉĂƧđž!f ǇĴđž Ưƶƕ ĆǊþƖ5ŏ Ćđžđž ƚǉŏƶđž ƖþĂŋ ƧŏŏĆƶđž! Ćđžnj5 ĆǊþĂʅŏ Ǘ Ćŏþŏ𝄞Ɩƙ ƚƶƕƙđž

þŏþŋ!f ƫŏĆƶƙ!f Ŏ5 ƳƧĆʅƙ ǇĴđž ƚđž!Ăƶ!f ƚǂƧơ ǊǨþơƙ ĆđžĂ ƚŏđž!Ćƶ!f ƘfƧŏƺƙ!f ƭ5Ă ƧŏŏĆƶđž ǇĴđž þŋƙʅŏ

.ƖĆŏơ!f ƘǗĆŋđž ýǂ Ŏ5Ă

:ƕĭĎǏǐƣđžƚ𝄞ɛ Ɩ ɛqƾƚyĎǏ𝄞ɛǋ !ĭƾ𝄞ɛ :Ǐđžƙ𝄞ɛ ǖFƜĎǏ𝄞ɛ

Ǐ𝄞Ƶ ýƮơ þp ýĆŋđž!f ǇĴĐ Ǖ(ƚŏđžŏƱǉƙ!f Ƙfþ𝄞ƙƶđž!fĂ Ďžŏl!f) ýĆŋđžƕ ƚ𝄞ƶƙđž!f ǋFĆƙǉ!f ƘƧnjƱĐ

Ǐ𝄞Ƶ Ƙ𝄞Ʈơ þp (ƚŏpƧƙ𝄞! ƚŏĂĆʅƙđž ƒ Ƨƽƕ ƚƶđžĆŋ!f Ŏ5 ǇĴĂ𝄞đžĆƶ!f ǏƱơŏ) ƖƧƖ5 ǇĴĐĂ Ǖƚŏ!ĆƵ ƧŏþƖƙ ƚŋƧþ

Ǐ𝄞Ƶ ǋFĆƙǉ!f ǉƦǊ Ƙ!þĂ .Ǖ(ĎnjFfþf ƧŏĂƱƙ! ƚƶđžĆŋ!f Ŏ5 ǇĴŏ𝄞đžĆƶ𝄞! ƒ Ƨƽ!f ƟĆƙƙ) ƖƧƖ5 Ćnjŏ𝄞ŏ ǕƱʅĂƙđž Ǐ𝄞ƵĐ

ĆƢŏfĂ ƚŏpƧƙ𝄞! ƚŏĂĆʅƙđž ƒ Ƨ5 ǇĴŏ𝄞đžĆƶ𝄞! ƭƖơƙ Ćđž fƦf ǊǉĐ Ǐ!ǫ 𝄞!Ʀ ăƨƶƀ ǇĴĐ ǇĴǂđžŏĂ .ƚŏ!ĆƵ ƚŋƧþ

Ǐ𝄞ƵĂ Ďžŏl!f ĎĆƱǉ ƚƕŏǂƧƙ Ŏ5 ýƤþŏ 𝄞!Ʀ ǇĴĆ5 ƚŏǂƧĆƬƙ!f ƖƧfþǗf ƭŏƕƱƙ ýǘƤ ǇĴđž ĎnjFfþĐ ƧŏĂƱƙ! ƒ Ƨƽƕ

Ďžŏp ƚŏǂƧĆƬƙ!f ƖƧfþǗf ƭŏƕƱƙ ƨƨƶŏ ƻĂʅ Ǌŏ5 𝄞Ƭ Ǘ ĆđžđžĂ ƚŏđžŏƱǉǉƙ!f Ƙfþ𝄞ƙƶđž!f ǏǉƕƙƩĆʅǗf 𝄞!Ʀ

ýǂŏnj!f ƯƧƽŏ) ƖƧƖƽ! ǇĴĆǂ ǑƕĆʅơ Ʊʅ Ăƙđž Ǐǉþ Đ ǇĴĐ ǋFĆƙǉ!f ƘƧnjƱĐ Ćđžǂ .ƚđžƱǉđž!f 𝄞𝄞ƙ Ƙfþ𝄞ƙƶđžĂ

ƘfþơĂ!f ǇĴĐ Ǐ!ǫ 𝄞!Ʀ ăƨƶƀ ǇĴĐ ǇĴǂđžŏĂ .(ƚŏǂƧĆƬƙ!f ƖƧfþǗf Ʃʅf ƭŏƕƱƙ! Ǌʅƽǉ ƚƶđžĆŋ!Ćƕ ǑđžŏƱǉƙ!f

ǑđžŏƱǉƙ!f ýǂŏnj𝄞! Ćnjđžʅƨ þǉƵ ƚŏǂƧĆƬƙ!f ƖƧfþǗf Ʃʅf ƧĆƕƙƵǗf ǇĴŏƶƕ ƦƤđžƙ Ǘ ƘĆƶđžĆŋ!f ýƤfþ ƚŏƧfþǗf

.Ʃʅǖf 𝄞𝄞ƙ ƖĆƵfƧđž Ďžƙ fƦf Ćđžŏ5 ƚŏǂƧĆƬƙ!f ƖƧfþǗf ƭŏƕƱƙ! Ǌʅƽǉ ƯƧƽŏ þp ĭƦ!f

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ƻ Ƨƶƙ ýƓőƞƊ ƚőƞƧƙ Ŏƽ ƚďŬƒ ƧőƤ ƉƥƤőĂ ƚőƥơ ĂƝ Ɠď ýǂ ƴď ƉƥƋƙƉ! ƖƨƝƓƞĂ ƳƒƥƞŰƒĂ ƖƥĂƞ!ƒĂ

.ýƯ ƼƊ ýƞƖƙƪď ĂơǇ Ǐƶƪƙ Ă ƓƞőƯ Ɠď ƧƥƖƙĂ ƇƓďƙǇŬƒ ǏǇƶď

.5 ýőǂƬƙ !ƞǇƚ ƚƪƙƖƚ !ďƙƓƞƶƚ Ɠď ƙĂƬý ǫ!őƝ ƒ!ƞơĂ ƚ Ăƥ!ƒƧƪƓƘ ŎƽƒƞǇ !ƓďƶƓƘ ǇďƴŬƒ ƤƦ ƞƶőǇ

ƒ!ƊƙǇƓƪƝ ƓƧ ƥőƥ ƙơ ǂơő ƧƙƊƝ ďǇ ƬƓǂý ƒ!ƙƥơƓƘ ƒ!Ŏ ƙĂƞƝ

.ƒ!ƙƶƊőď ƒ!ƶƓ!Ŏ

.6 ƯƧĂƧƖ ƙƶőý ďƞƥƉ ƒ!ďƪƓƤƚ ďőƓ ƤĔ ďƤƧƞƓƘ ƒ!ǇƯƓƊ ƒ!ƙƶőďŎ ơőƚ őƶƥ Ʀ!‖ ƒ!ďƞƥƉ ƯƓďǇƚ

ƙƶƶőƨ ƒ!ƝǇƝ ƒ!ƥƊƶďőƧƒƱŎ ƒ!Ʀĭ Ü ƥďǇ ƙǂƧőƪƝ !őƬƞƱ ƒ!ƝǇƝ ƒ!ƪƓƥ ƵƛǏ ďƪƙĂă ƒ!ďǇƱďƚ ĂďƓ

.ƒ!Ɲ ďǇ ƒǇƶǂƓƪƓƘ ƒőƞƓƞƚ ƵƛǏ Ƭƶƥ ƒ!ďƞƙďƴ ǂǂý

.7 ƍƞƧƒƇ ƞơĂƚ ďƓƗƛƚ ǇƵ ƒŬƥƧƖ ƒ!ƙƬƓƧǂőƚ ƞƓďƶƓƘ ďƤƙƛƽƚ ƞďƶƙƨőƧƒƘ ƊƤƧă ĂƞőƓǇ ƒƘƧ

.ƚőďőƱǇƙ!ƒ ƚƽƓƖƛ!ƒ ǏƛƵ Ƙƒƨőƨƙď!ƒ ‖ƛƙ

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					.ǉƑĭƬǋƗǁɛǋ ǉƑƟɛƥƗƼǗɛ ƤĭƻǆƗĜ !ɛƦƗǁǗɛ	8
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					ƕøyĎžƑǁǁɛ ƧǁƑøǁǁĎž Ĭøʒ Ĭø ǂƟĎžǁɛ ǓĎžƗǁǁĎžǁɛ ǭɛƥʒɛ ƕǀƥƑƪĎž .ƕƻǂƢĎžǁɛ	2
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ǎNjǴþǂǁƐ ɑFʅþǕƐNj Ƨ ƻǆǁƐ !ǂƳ	pNjDžþĭǁƐ huyDžFɯ	DžĭƻĭþʅǁƐ üFDž l üFƬǆ þNjǂlɑǁƐ	9
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Ƨ ĭþɑǂǁƐ 5þƱNj ƛljFǆDžǁƐ	pNjDžþĭǁƐ huyDžFɯ	ƔɑǁƐNjƆǁƐ Ǐ ǂƳ ɑDžƟDž þNjǂlɑǁƐ	11
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hǔǴþǂǁƐ üNjƬƈNj ƔþƐɑǕƐ	njþʂǁƐ !ƈ huyDžFɯ	DžƐþʂʅǁƐ ǏDžƐþ þNjǂlɑǁƐ	15
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Abstract

Alzoubi, Trad Barjas Trad. (2012). The Extent of Applying Academic Leaders for participative Administration at Jordanian Universities and its Role in Enhancing Organizational culture.

PH.D. Dissertation, Yarmouk University. (Supervisor: PH.D. Mohammad Ali Ashour).

The purpose of this study is to identify The Extent of Applying Academic Leaders for participative Administration at Jordanian Universities and its Role in Enhancing Organizational culture.

The study population consisted of all academic leaders in public Jordanian universities (Yarmouk University, Jordanian University of Science and Technology, Al al-Bayt University), during the academic year 2011/2012 .The study sample included all academic leaders in public Jordanian universities, and numbered (n=164), after a pilot study was drown out from the population.

The researcher prepared & developed a questionnaire consisted of two tools, the first focused on measuring The Extent of Applying Academic Leaders for participative Administration at Jordanian Universities, and consisted (42) items, distributed in fife domains, while the second tool focused on measuring the role of applying Academic for effectiveness of management information systems participative Administration at Jordanian Universities in Enhancing Organizational culture., and consisted (25) Items distributed in three domains. Validity and reliability coefficient were ensured for the tool. The findings of the study were:

- The Extent of Applying Academic Leaders for participative Administration at Jordanian Public universities showed a **high**

effectiveness on all domains, and on the tool as whole, except "partnership with local community", domain, which showed an **average** effectiveness.

- There are no statistical significant differences at the significance level of (α = 0.05) on all domains of Applying Academic Leaders for participative Administration, and on the tool as whole, due to the variables (practical experience, and the college), while the results showed that there were statistical significant differences at the significance level of (α =0.05) on all domains of Applying Academic Leaders for participative Administration, and on the tool as whole, due to the variable (the university).
- The role of Academic Leaders for participative Administration in Enhancing Organizational culture showed a **high** degree on all domains, and on the tool as whole.
- There is **a positive correlation** between Applying Academic Leaders for participative Administration, and between Enhancing Organizational culture, on all domains, and on the tool as whole.

Key Words: Participative Administration, Organizational Culture, Public Jordanian Universities, Academic Leaders.